

WEIL, GOTSHAL & MANGES LLP

1300 EYE STREET, NW
SUITE 900
WASHINGTON, DC 20005
(202) 682-7000
FAX: (202) 857-0939

AUSTIN
BOSTON
BRUSSELS
BUDAPEST
DALLAS
FRANKFURT
HOUSTON
LONDON
MIAMI
MUNICH
NEW YORK
PARIS
PRAGUE
PROVIDENCE
SHANGHAI
SILICON VALLEY
SINGAPORE
WARSAW

DAVID B. HIRD
DIRECT LINE (202) 682-7175
E-MAIL: david.hird@well.com

May 12, 2006

BY FED EX

Douglas Tomchuk
Remedial Project Manager
USEPA - Region 2
290 Broadway, 19th Floor
New York, New York 10007-1866

Clay Monroe, Esq.
Assistant Regional Counsel
USEPA - Region 2
290 Broadway, 17th Floor
New York, New York 10007-1866

**Re: Berry's Creek Study Area - Response to Notice
of Potential Liability by Armstrong World
Industries, Inc.**

Dear Mr. Tomchuk and Mr. Monroe:

On behalf of Armstrong World Industries, Inc. ("AWI"), I am writing to respond to the U.S. Environmental Protection Agency's ("EPA") Notice of Potential Liability and Request to Perform RI/FS (hereinafter the "Notice") of March 9, 2006. In this Notice, EPA requested that AWI respond to the Agency's invitation to enter into a settlement to perform a remedial investigation/feasibility study ("RI/FS") for the Berry's Creek Study Area.

We understand that EPA identified AWI as a potentially responsible party ("PRP") for the Berry's Creek Study Area because AWI allegedly disposed of hazardous



Douglas Tomchuk
Clay Monroe, Esq.
May 12, 2006
Page 2

substances at the Scientific Chemical Processing landfill in Carlstadt, New Jersey, and that contamination from that landfill migrated to the Study Area. AWI denies all liability. Moreover, as is described in greater detail in the attached letter to David Street of the U.S. Department of Justice, any claim which EPA may have against AWI with respect to the Berry's Creek Study Area was resolved as part of the Settlement Agreement between the United States and AWI, approved by the U.S. Bankruptcy Court for the District of Delaware in *In re Armstrong World Industries, Inc.*, no. 00-4471 (JFK), and any further action by EPA against AWI with respect to the Berry's Creek Study Area is barred by the covenant not to sue which AWI received with respect to the Scientific Chemical Processing Liquidated Site in that Settlement Agreement.

For these reasons, AWI declines to participate in the RI/FS for the Berry's Creek Study Area or to agree to pay EPA's costs.

Also, AWI notes that even if the claim relating to the Berry's Creek Study Area is not covered by the covenant not to sue for the Scientific Chemical Processing site, the Settlement Agreement still bars EPA from taking enforcement actions against AWI. Sites that are not otherwise identified in the Settlement Agreement and are not owned by AWI are designated under the Agreement as "Additional Sites." Pursuant to Paragraph 8 of the Settlement Agreement, the United States has agreed not to take any type of enforcement action on behalf of EPA under sections 106 and 107 of CERCLA or section 7003 of RCRA against AWI as a debtor or debtor-in-possession based on AWI's pre-petition conduct with respect to any Additional Site. The United States has also agreed not to take any injunctive action or issue any administrative order under section 106 of CERCLA or section 7003 of RCRA against the reorganized AWI with respect to an Additional Site. Moreover, at this time, no such reorganized company has come into existence since no plan of reorganization has been confirmed by the Bankruptcy Court.

Sincerely,



David B. Hird

Enclosures

cc: David Street
Douglas S. Brossman
Debra Dandeneau

WEIL, GOTSHAL & MANGES LLP

1300 EYE STREET, NW
SUITE 900
WASHINGTON, DC 20005
(202) 682-7000
FAX: (202) 857-0939

AUSTIN
BOSTON
BRUSSELS
BUDAPEST
DALLAS
FRANKFURT
HOUSTON
LONDON
MIAMI
MUNICH
NEW YORK
PARIS
PRAGUE
PROVIDENCE
SHANGHAI
SILICON VALLEY
SINGAPORE
WARSAW

DAVID B. HIRD
DIRECT LINE (202) 682-7175
E-MAIL: david.hird@weil.com

May 12, 2006

BY EXPRESS MAIL

David Street, Esq.
Trial Attorney
Environmental Enforcement Section
U.S. Department of Justice
P.O. Box 7611, Ben Franklin Station
Washington, D.C. 20044-7611

**Re: In re Armstrong World Industries, Inc.,
No. 00-4471 (JFK) (Bankr. D. Del.)**

Dear David:

As you know, Armstrong World Industries, Inc. ("AWI") recently received a document from the U.S. Environmental Protection Agency ("EPA") entitled "Notice of Potential Liability with Request to Perform RI/FS . . . for the Berry's Creek Study Area" (hereinafter "Notice," attached as Exhibit A). In the Notice, EPA identified AWI and 157 other entities as potentially responsible parties ("PRPs") with respect to the Berry's Creek Study Area and asked them to fund a remedial investigation/feasibility study for that area. The Notice threatened AWI with enforcement action if it did not participate.

For the reasons described below, AWI believes that all claims which EPA may have had against AWI under the Comprehensive Environmental Response Compensation and Liability Act ("CERCLA") with respect to the Berry's Creek Study Area have already been resolved under the Settlement Agreement between AWI and the United States approved by the Bankruptcy Court in October 2005 (attached as Exhibit B).

David Street, Esq.
May 12, 2006
Page 2

That Settlement Agreement is the culmination of a four-year effort from 2000 to 2004 by the United States and AWI to develop a comprehensive framework to resolve all of AWI's CERCLA liabilities to EPA in context of AWI's chapter 11 case. As the principal negotiators on behalf of our respective clients, you and I attempted to identify and resolve all known CERCLA claims that EPA had against AWI based on AWI's pre-petition conduct, other than claims relating to properties that AWI continued to own.¹ Known claims were separated into three categories: "Liquidated Sites," "Discharged Sites" and a single "Consent Decree Site." The Settlement Agreement addressed each category differently. With respect to the Liquidated Sites, the Settlement Agreement provided that the United States would have an allowed unsecured claim in a specified amount for site, payable from AWI's bankruptcy estate. Settlement Agreement ¶ 4. In return, the United States provided a covenant not to sue or take administrative action against AWI, and to a discharge in AWI's chapter 11 case. Settlement Agreement ¶¶ 15, 17.

One of the Liquidated Sites identified in the Settlement Agreement is Scientific Chemical Processing Carlstadt ("SCP"), a site listed on EPA's National Priority List ("NPL"). AWI was identified as a PRP at SCP based on allegations that it had arranged for the disposal of hazardous substances at the Scientific Chemical Processing landfill in Carlstadt, New Jersey. I understand, from reviewing the Notice and my conversations with you, that these same allegations form the basis of EPA's decision to designate AWI as a PRP for the Berry's Creek Study Area, as well. EPA contends that hazardous substances disposed of at the Scientific Chemical Processing landfill escaped from that landfill into the surface water and migrated into the Berry's Creek Study Area. Therefore, EPA has identified as PRPs for the Berry's Creek Study Area approximately 50 companies, including AWI, who are alleged to have disposed of waste at that landfill.

Accordingly, AWI believes that any liability which it may have had to EPA for the Berry's Creek Study Area was resolved by the covenant not to sue and discharge which it received for the SCP site in the Settlement Agreement. The same alleged actions which made AWI a PRP for the SCP landfill itself – disposal at the

¹ Early in the negotiation process, I told you that AWI was aware of allegations that it had been identified as a PRP in connection with the New Jersey Department of Environmental Protection's ("NJDEP") investigation of the Berry's Creek area, but this matter was not separately identified as a claim addressed in the Settlement Agreement because the United States did not have the authority to resolve claims held by a State. Unbeknownst to AWI, EPA took back control of the Berry's Creek investigation from the State in 2003, prior to the execution of the Settlement Agreement in 2004.

David Street, Esq.
May 12, 2006
Page 3

landfill – make AWI a PRP for the Berry Creek Study Area. Indeed, the government's contention is that the pollutants escaped from the landfill and entered the Berry's Creek Study Area.

This interpretation is supported by the language of the Settlement Agreement itself, by the CERCLA provisions and EPA pronouncements concerning the identification of sites on the National Priority List ("NPL"), and by EPA documents concerning the SCP site and the Berry's Creek Study Area.

In Paragraph 17 of the Settlement Agreement, the government covenanted not to sue AWI with respect to the "Liquidated Sites." Similarly, in Paragraph 15, the government agreed that all claims relating to "Liquidated Sites" were discharged. The Settlement Agreement defines the term "Liquidated Site" as follows: "[a] 'Liquidated Site' . . . shall be construed to include . . . for those sites now or hereafter included on the NPL, all areas of a site as defined by EPA for purposes of the NPL, including any later expansion of such site as may be determined by EPA." Settlement Agreement ¶ 1. Thus, the term "Liquidated Site" includes all areas of a "site" which would be considered part of the "site" for purposes of the NPL. Moreover, if EPA expands the area of NPL site, the expanded area also falls within the scope of the definition of Liquidated Site.

An examination of CERCLA and EPA's regulations make clear that although NPL "sites" are commonly known by a geographic referent – e.g., the SCP site – the area included in the "site" is not limited by the geographic boundaries of that referent but encompasses the entire area affected by a single release or group of releases of hazardous substances into the environment. Technically, under CERCLA, EPA does not list "sites" per se on the NPL, but rather lists "releases." 42 U.S.C. § 9605(a)(8)(B) ("the President shall list as part of the plan national priorities among the known releases or threatened releases throughout the United States . . ."); 40 C.F.R. § 300.425(b) ("The NPL is the list of priority releases for long-term remedial evaluation and response."). EPA gives a site name to each release listed on the NPL as a convenient means of identification, but that does not mean that the NPL "site" is limited to the boundaries of the geographic location from which the name is taken. As EPA explained in the Preamble to the 2000 amendments to the NPL:

The NPL does not describe releases in precise geographical terms; it would be neither feasible nor consistent with the limited purpose of the NPL (to identify releases that are priorities for further evaluation), for it to do so.

....

David Street, Esq.
May 12, 2006
Page 4

When a site is listed, the approach generally used to describe the relevant release(s) is to delineate a geographical area (usually the area within an installation or plant boundaries) and identify the site by reference to that area. As a legal matter, the site is not coextensive with that area, and the boundaries of the installation or plant are not the "boundaries" of the site. *Rather, the site consists of all contaminated areas within the area used to identify the site, as well as any other location to which that contamination has come to be located, or from which that contamination came.*

In other words, while geographic terms are often used to designate the site (e.g., the "Jones Co. plant site") in terms of a property owned by a particular party, the site properly understood is not limited to that property (e.g., it may extend beyond the property due to contaminant migration), and conversely may not occupy the full extent of the property *The "site" is thus neither equal to or confined by the boundaries of any specific property which may give the site its name*

65 Fed. Reg. 5435, 5437 (Feb. 4, 2000) (Emphasis supplied). In *Honeywell International, Inc. v. EPA*, 372 F.3d 441, 450 (D.C. Cir. 2004), the D.C. Circuit relied on this Preamble language to reject a challenge by a company called Three Y to EPA's inclusion of property owned by Three Y in an NPL site designated by the name of another property owner.

Consistent with this approach, EPA in its National Contingency Plan ("NCP") defined the term "on-site" to mean "the areal extent of the contamination and all suitable areas in very close proximity to the contamination necessary for implementation of the response action." 40 C.F.R. § 300.400(e)(1). In other words, the "site" is coextensive with the area contaminated by the release listed in the NPL. Since EPA now contends that releases from the Scientific Chemical Processing landfill have contaminated the Berry Creek Study Area, the SCP site has expanded to include the Berry's Creek Study Area for NPL purposes.

Further, EPA documents show that much of the geographic area covered by the prior remedial investigation at the SCP site and the proposed remedial investigation for the Berry's Creek Study Area substantially overlap. According to the 1990 Record of Decision for the SCP site, the Scientific Chemical Processing landfill is

David Street, Esq.
May 12, 2006
Page 5

located adjacent to Peach Island Creek, which is a tributary of Berry's Creek. EPA/ROD/RO2-90/109 ("1990 ROD") at 3, 7, attached as Exhibit C. As part of the 1987 remedial investigation for the SCP site; PRPs, acting at EPA's direction, took and analyzed samples at various locations in Peach Island Creek and at the confluence between Peach Island Creek and Berry's Creek. *Id.* at 7. Based on these samples, EPA concluded in its 1990 Record of Decision that: "[s]urface water and sediment in Peach Island Creek, which flows adjacent to the site, are contaminated with hazardous substances similar in type and and/or identical to those which were found in the soils and groundwater at the site." *Id.* at 8. In the 1990 ROD, EPA selected an interim remedy for the Operable Unit 1, relating the remediation of soils and groundwater, but EPA indicated that it planned to chose a second remedy for Operable Unit 2, which would address contamination in Peach Island Creek. *Id.* at 4. In 2002, EPA issued a second ROD for the SCP site. In this second ROD, EPA selected additional remedial measures with respect to soil and groundwater contamination at the landfill as Operable Unit 2, and deferred the cleanup of Peach Island Creek, which was redesignated as Operable Unit 3. EPA/ROD/RO 2-02/11 ("2002 ROD") at 9, attached as Exhibit D. At the time, EPA indicated that additional surface water sampling would be taken in order to develop alternatives for a remedy for Peach Island Creek. *Id.*

Thus, prior to 1990, EPA had found contamination from the landfill traveling through Peach Island Creek up to the confluence between that stream and Berry's Creek. Further, in the 1990 ROD, EPA announced that the cleanup of Peach Island Creek would be part of the remedy for the SCP site, to be selected in a second operable unit. In the 2002 ROD, EPA still projected a future cleanup of Peach Island Creek.

In its recent Notice, EPA described the Berry's Creek Study Area to include, in addition to Berry's Creek itself, "all tributaries to Berry's Creek from its headwaters to the Hackensack River, and wetlands that are hydrologically connected to Berry's Creek and/or its tributaries." Exhibit A, Notice at 1. Thus, it is clear that Peach Island Creek, as a tributary of Berry's Creek, is part of the Berry's Creek Study Area. Indeed, it appears that the contemplated remedial investigation/feasibility study for the Study Area will propose remedies for Peach Island Creek, which EPA had previously planned to address as part of a separate operable unit for the SCP cleanup. Further, the Notice indicates that the Study Area also includes "upland properties in the Berry's Creek watershed (as potential sources of contamination to the creek, but not for the purpose of detailed investigations of the upland areas themselves)." Exhibit A, Notice at 1. Thus, the Scientific Chemical Processing landfill itself is included in the Study Area as a source of the contamination in Peach Island Creek and Berry's Creek.

David Street, Esq.
May 12, 2006
Page 6

In sum, the RI/FS for the Berry's Creek Study Area is directed at studying areas that would be considered part of the SCP site "as defined by EPA for purposes of the NPL" to use the language from the definition of a "Liquidated Site" in the Settlement Agreement. Accordingly, any claims which EPA may have against AWI related to the Berry's Creek Study Area have been resolved by the Settlement Agreement.

Please let us know whether the government agrees with this analysis. If we have not heard from the government within 30 days, AWI will seek clarification from the Court pursuant to Paragraph 33 of the Settlement Agreement.

Also, AWI notes that even if the Berry's Creek claim is not covered by the covenant not to sue for the SCP site, the Settlement Agreement nonetheless bars the United States from taking certain enforcement actions against AWI. Sites that are not otherwise identified in the Settlement Agreement and are not owned by AWI are designated under the Agreement as "Additional Sites." Pursuant to Paragraph 8 of the Settlement Agreement, the United States has agreed not to take any type of enforcement action on behalf of EPA under sections 106 and 107 of CERCLA or section 7003 of RCRA against AWI as a debtor or debtor-in-possession based on AWI's pre-petition conduct with respect to any Additional Site. The United States has also agreed not to take any injunctive action or issue any administrative order under section 106 of CERCLA or section 7003 of RCRA against the reorganized AWI with respect to an Additional Site. Moreover, at this time, no such reorganized company has come into existence since no plan of reorganization has been confirmed.

Sincerely,



David B. Hird

Enclosures

cc: Douglas Tomchuk (w/ enclosures)
Clay Monroe (w/ enclosures)
Douglas S. Brossman (w/ enclosures)
Debra Dandeneau (w/ enclosures)

Exhibit A



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

MAR - 9 2006

URGENT LEGAL MATTER -- PROMPT REPLY NECESSARY

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Michael D. Lockhart
CEO
Armstrong World Industries
West Liberty Street
Lancaster, PA 17604

Re: Notice of Potential Liability and Request to Perform RI/FS Pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. Section 9601 et seq., for the Berry's Creek Study Area, Bergen County, New Jersey

Dear Mr. Lockhart:

The United States Environmental Protection Agency ("EPA") is charged with responding to the release or threat of release of hazardous substances, pollutants, and contaminants into the environment and with enforcement responsibilities under the Comprehensive Environmental Response, Compensation, and Liability Act, as amended ("CERCLA"), 42 U.S.C. Sections 9601-9675.

As you know, EPA has documented the release and threat of release of hazardous substances into the environment at the Berry's Creek Study Area, Bergen County, New Jersey (the "Site"). In response to the release and threat of release of hazardous substances at the Site, EPA has spent public funds and anticipates spending additional public funds pursuant to CERCLA. Based on information presently available, EPA has determined that your company may be responsible under CERCLA for cleanup of the Site or costs EPA has incurred in cleaning up the Site.

The Site is described as the Berry's Creek Study Area, which includes the water body known as Berry's Creek including the Berry's Creek Canal and the natural course of Berry's Creek; all tributaries to Berry's Creek from its headwaters to the Hackensack River, and wetlands that are hydrologically connected to Berry's Creek and/or its tributaries. The Berry's Creek Study Area also includes upland properties in the Berry's Creek watershed (as potential sources of contamination to the creek, but not for the purpose of detailed investigations of the upland areas themselves). Tidal portions of the Hackensack River and adjacent areas will also be studied, as necessary, to evaluate the ecological relationships and exchanges of contamination between these areas and the Berry's Creek Study Area.

NOTICE OF POTENTIAL LIABILITY

Under CERCLA and other laws, responsible parties may be held liable for monies expended by the federal government in taking response actions at and around sites where hazardous substances have been released, including investigative, planning, removal, remedial and enforcement actions. Responsible parties also may be subject to orders requiring them to take response actions themselves. Responsible parties under CERCLA include, among others, the current and past owners or operators of a facility from which there has been a release or threatened release of hazardous substances, persons that arranged for the treatment or disposal of hazardous substances which were sent to such a facility, and persons that transported hazardous substances to such a facility.

By this letter, EPA notifies you that it has reason to believe that your company or its predecessor owned or operated, or currently owns or operates, a facility which engaged in activities resulting in the release of hazardous substances to the Site, or arranged for the treatment or disposal of hazardous substances which may have come to be disposed of at such facility, and is accordingly notifying your company of its status as a potentially responsible party ("PRP") under Section 107(a) of CERCLA, 42 U.S.C. §9607(a).

REQUEST TO PERFORM REMEDIAL INVESTIGATION / FEASIBILITY STUDY ("RI/FS")

By this letter, EPA invites your company to enter into a settlement with EPA which provides for the PRPs to conduct the RI/FS required at the Site. Any agreement by the PRPs to perform the RI/FS will need to be memorialized in an administrative order on consent ("AOC") issued by EPA under CERCLA.

EPA, pursuant to an agreement with Morton International, Inc. that provided partial funding of the development of a work plan, has prepared the Framework Document for the Berry's Creek Study Area (enclosed on Compact Disc). The Framework Document contains a detailed explanation of the work that will be required to conduct the RI/FS. In addition, as explained below, EPA will be available to meet with you to discuss questions concerning the Framework Document and the RI/FS.

Within forty-five (45) days from the date of your receipt of this letter, please submit a good faith offer to conduct the RI/FS. A good faith offer consists of a written proposal that demonstrates your company's qualifications and willingness to conduct the RI/FS and shall include the following elements:

1. A statement of the PRPs' willingness to conduct the RI/FS.
2. A demonstration of the PRPs' technical capability to carry out the RI/FS including the identification of the firm(s) that may actually conduct the work or a description of the process that will be undertaken to select the firm(s).
3. A demonstration of the PRPs' capability to finance the RI/FS.
4. A statement of the willingness by the PRPs to reimburse EPA for costs incurred in

overseeing your implementation of the RI/FS

5. The name, address, and phone number of the party who will represent you in the negotiations.

Please be advised that pursuant to Section 104(a) of CERCLA, 42 U.S.C. §9604(a), EPA will only allow the PRPs to perform the RI/FS if it determines that the PRPs are qualified to perform the action and can do so properly and promptly. If the PRPs agree to perform the RI/FS, the agreement will be memorialized in an AOC, and EPA will provide the PRPs with a draft AOC containing, among other things, a detailed explanation of the work required to implement the RI/FS.

If EPA does not receive a timely response, it will assume that the PRPs do not wish to enter into a settlement for, or participate in, the RI/FS. In such an event, EPA will take appropriate action at the Site which could include issuance of a Unilateral Administrative Order to your company under Section 106(a) of CERCLA, 42 U.S.C. §9606(a), requiring that it perform the RI/FS, or EPA may perform the RI/FS and pursue a cost recovery claim against your company pursuant to Section 107 of CERCLA, 42 U.S.C. §9607.

FINANCIAL CONCERNS/ABILITY TO PAY SETTLEMENTS

EPA is aware that the financial ability of some PRPs to contribute toward the payment of response costs or performance of work at a site may be substantially limited. If you believe, and can document, that you fall within that category, please contact Clay Monroe, Assistant Regional Counsel, in writing at the address provided in this letter. You will be asked to submit financial records including federal income tax returns as well as audited financial statements to substantiate your claim.

Also, please note that, because EPA has a potential claim against you, you must include EPA as a creditor if you file for bankruptcy.

INFORMATION TO ASSIST POTENTIALLY RESPONSIBLE PARTIES

EPA would like to encourage good faith negotiations between the PRPs and EPA, as well as among the PRPs. To assist PRPs in preparing a proposal and in negotiating with EPA concerning this matter, EPA is providing a list of names and addresses of all PRPs who are being notified. Inclusion on, or exclusion from, the list does not constitute a final determination by EPA concerning the liability of any party for the release or threat of a release of hazardous substances at the Site. Be advised that notice of your potential liability at the Site is being forwarded to all parties on this list.

EPA will establish an Administrative Record that contains documents that serve as the basis for EPA's selection of a cleanup action for the Site. The Administrative Record files will be available to you and the public at the Superfund Records Center, located at EPA Region 2 offices in New York City. Please contact Douglas Tomchuk at (212) 637-3956 if you wish to arrange an appointment to review Site files.

EPA will hold an informational meeting for PRPs interested in finding out more about the Framework Document and the work effort that EPA believes appropriate to study the Site. The meeting will be on Monday, April 3, 2006 at 1:00 PM in Conference Room 27A at the Region 2 offices in New York City. The presentations will be of a technical nature, and should not be considered a negotiation session. EPA would appreciate notification of those parties planning to attend. Please contact Douglas Tomchuk at 212-637-3956 or via email at tomchuk.doug@epa.gov if you are planning on attending.

PRP STEERING COMMITTEE

EPA recommends that all PRPs meet to select a steering committee responsible for representing the group's interests. Establishing a manageable group is critical for successful negotiations with EPA. Alternatively, EPA encourages each PRP to select one person from its company who will represent its interests.

Your response to the Notice contained in this letter, including your written proposal to perform the RI/FS, should be sent to:

Douglas Tomchuk
Remedial Project Manager
USEPA - Region 2
290 Broadway, 19th Floor
New York, New York 10007-1866

With a copy to:

Clay Monroe
Assistant Regional Counsel
USEPA - Region 2
290 Broadway, 17th Floor
New York, NY 10007-1866

EPA urges that your immediate attention and prompt response be given to this letter.

This notice is not being provided pursuant to the "special notice" procedures outlined in Section 122 (e) of CERCLA, 42 U.S.C. Section 9622 (e); because EPA does not believe that those procedures would facilitate an agreement or expedite the RI/FS for the Site.

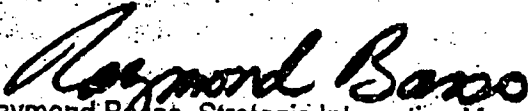
RESOURCES AND INFORMATION FOR SMALL BUSINESSES

As you may be aware, on January 11, 2002, President Bush signed into law the Superfund Small Business Liability Relief and Brownfields Revitalization Act. This Act contains several exemptions and defenses to CERCLA liability, which we suggest that all parties evaluate. You may obtain a copy of the law via the Internet at <http://www.epa.gov/swerosps/bf/sblbra.htm> and review EPA guidances regarding these exemptions at <http://www.epa.gov/compliance/resources/policies/cleanup/superfund>.

EPA has created a number of helpful resources for small businesses. EPA has established the National Compliance Assistance Clearinghouse as well as Compliance Assistance Centers which offer various forms of resources to small businesses. You may inquire about these resources at www.epa.gov. In addition, the EPA Small Business Ombudsman may be contacted at www.epa.gov/sbo. Finally, EPA developed a fact sheet about the Small Business Regulatory Enforcement Fairness Act ("SBREFA"), which is enclosed with this letter.

If you have any questions regarding this Notice of Potential Liability and Request to Perform the RI/FS, or would like to discuss this matter with EPA, please call or have your attorney call Mr. Monroe at (212) 637-3142.

Sincerely yours,



Raymond Basso, Strategic Integration Manager
Emergency and Remedial Response Division

Enclosures

cc: Gwen Zervas, NJDEP
Rachel Layre, NJDOL



United States
Environmental Protection
Agency

Office of Enforcement and Compliance Assurance (2201A)
EPA-300-F-99-004 September 1999

Office of Enforcement and Compliance Assurance INFORMATION SHEET

U.S. EPA Small Business Resources

If you own a small business, the United States Environmental Protection Agency (EPA) offers a variety of compliance assistance and tools to assist you in complying with federal and State environmental laws. These resources can help you understand your environmental obligations, improve compliance and find cost-effective ways to comply through the use of pollution prevention and other innovative technologies.

EPA Websites

EPA has several Internet sites that provide useful compliance assistance information and materials for small businesses. Many public libraries provide access to the Internet at minimal or no cost.

EPA's Small Business Home Page (<http://www.epa.gov/sbo>) is a good place to start because it links with many other related websites. Other useful websites include:

EPA's Home Page
<http://www.epa.gov>

Small Business Assistance Programs
<http://www.epa.gov/ttn/sbap>

Compliance Assistance Home Page
<http://www.epa.gov/oeqa/oc>

Office of Site Remediation Enforcement
<http://www.epa.gov/oeqa/osre>

Hotlines, Helplines and Clearinghouses

EPA sponsors approximately 89 free hotlines and clearinghouses that provide convenient assistance on environmental requirements.

EPA's Small Business Ombudsman Hotline can provide a list of all the hot lines and assist in determining the hotline best meeting your needs. Key hotlines include:

EPA's Small Business Ombudsman
(800) 368-5888

*Hazardous Waste/Underground Tanks/
Superfund*
(800) 424-9346

National Response Center
(to report oil and hazardous substance spills)
(800) 424-8802

Toxics Substances and Asbestos Information
(202) 554-1404

Safe Drinking Water
(800) 426-4791

*Stratospheric Ozone and Refrigerants
Information*
(800) 296-1996

Clean Air Technical Center
(919) 541-0800

Wetlands Hotline
(800) 832-7828

Continued on back

U.S. EPA SMALL BUSINESS RESOURCES

Compliance Assistance Centers

In partnership with industry, universities, and other federal and state agencies, EPA has established national Compliance Assistance Centers that provide Internet and "faxback" assistance services for several industries with many small businesses. The following Compliance Assistance Centers can be accessed by calling the phone numbers below and at their respective websites:

Metal Finishing

(1-800-AT-NMFRC or www.nmfrc.org)

Printing

(1-888-USPNEAC or www.pneac.org)

Automotive Service and Repair

(1-888-GRN-LINK or www.ccar-greenlink.org)

Agriculture

(1-888-663-2155 or www.epa.gov/oeca/ag)

Printed Wiring Board Manufacturing

(1-734-995-4911 or www.pwbr.org)

The Chemical Industry

(1-800-672-6048 or www.chemalliance.org)

The Transportation Industry

(1-888-459-0656 or www.transource.org)

The Paints and Coatings Center

(1-800-286-6372 or www.paintcenter.org)

State Agencies

Many state agencies have established compliance assistance programs that provide on-site and other types of assistance. Contact your local state environmental agency for more information. For assistance in reaching state agencies, call EPA's Small Business Ombudsman at (800)-368-5888 or visit the Small Business Environmental Homepage at <http://www.smallbiz-enviroweb.org/state.html>.

Compliance Incentives

EPA provides incentives for environmental compliance. By participating in compliance assistance programs or voluntarily disclosing and promptly correcting violations, businesses may be eligible for penalty waivers or reductions. EPA has two policies that potentially apply to small businesses: The Audit Policy (<http://www.epa.gov/oeca/auditpol.html>) and the Small Business Policy (<http://www.epa.gov/oeca/>

[smbusi.html](http://www.epa.gov/oeca/smbusi.html)). These do not apply if an enforcement action has already been initiated.

Commenting on Federal Enforcement Actions and Compliance Activities

The Small Business Regulatory Enforcement Fairness Act (SBREFA) established an ombudsman ("SBREFA Ombudsman") and 10 Regional Fairness Boards to receive comments from small businesses about federal agency enforcement actions. The SBREFA Ombudsman will annually rate each agency's responsiveness to small businesses. If you believe that you fall within the Small Business Administration's definition of a small business (based on your Standard Industrial Code (SIC) designation, number of employees or annual receipts, defined at 13 C.F.R. 121.201; in most cases, this means a business with 500 or fewer employees), and wish to comment on federal enforcement and compliance activities, call the SBREFA Ombudsman's toll-free number at 1-888-REG-FAIR (1-888-734-3247).

Your Duty to Comply

If you receive compliance assistance or submit comments to the SBREFA Ombudsman or Regional Fairness Boards, you still have the duty to comply with the law, including providing timely responses to EPA information requests, administrative or civil complaints, other enforcement actions or communications. The assistance information and comment processes do not give you any new rights or defenses in any enforcement action. These processes also do not affect EPA's obligation to protect public health or the environment under any of the environmental statutes it enforces, including the right to take emergency remedial or emergency response actions when appropriate. Those decisions will be based on the facts in each situation. The SBREFA Ombudsman and Fairness Boards do not participate in resolving EPA's enforcement actions. Also, remember that to preserve your rights, you need to comply with all rules governing the enforcement process.

EPA is disseminating this information to you without making a determination that your business or organization is a small business as defined by Section 222 of the Small Business Regulatory Enforcement Fairness Act (SBREFA) or related provisions.

Exhibit B

**UNITED STATES BANKRUPTCY COURT
DISTRICT OF DELAWARE**

-----	X	
<i>In re</i>	:	Chapter 11 Case No.
	:	
ARMSTRONG WORLD INDUSTRIES,	:	00-4471 (JKF)
INC., <i>et al.</i> ,	:	
	:	(Jointly Administered)
Debtors.	:	
	:	
-----	X	

SETTLEMENT AGREEMENT

WHEREAS, Armstrong World Industries, Inc. ("AWI" or "Debtor") filed with the United States Bankruptcy Court for the District of Delaware (the "Court") a voluntary petition for relief under chapter 11 of title 11 of the United States Code (the "Bankruptcy Code") on December 6, 2000 (the "Petition Date"), Case No. 00-4471 (JKF) (the "Chapter 11 Case");

WHEREAS the United States, on behalf of the United States Environmental Protection Agency ("EPA"), contends that AWI is liable for response costs incurred and to be incurred by EPA in the course of responding to releases and threats of releases of hazardous substances into the environment for the Liquidated Sites as set forth herein;

WHEREAS AWI disputes the United States' contentions;

WHEREAS certain potentially responsible parties implementing response action at the Liquidated Sites as set forth herein have asserted claims for contribution for response costs from AWI;

WHEREAS the United States has filed a Proof of Claim on behalf of EPA against AWI's estate (Claim no. 4724) seeking Claims in an unliquidated amount;

WHEREAS AWI seeks, to the maximum extent permitted by law, to obtain protection, through the resolution of environmental liabilities for the Liquidated Sites as set forth herein, from and against all Claims that have been or may in the future be asserted for response costs for the Liquidated Sites;

WHEREAS AWI and the United States, on behalf of EPA, wish to resolve their differences with respect to the Liquidated Sites and deal with other issues relating to environmental matters as provided herein;

WHEREAS in consideration of, and in exchange for, the promises and covenants herein, including, without limitation, the covenants not to sue set forth in Paragraphs 17, 19, and 23 and, subject to the provisions of Paragraphs 27-29, intending to be legally bound hereby, AWI and the United States, on behalf of EPA, hereby agree to the terms and provisions of this Settlement Agreement;

WHEREAS settlement of the matters governed by this Settlement Agreement is in the public interest and an appropriate means of resolving these matters;

NOW, THEREFORE, without the admission of liability or any adjudication on any issue of fact or law, and upon the consent and agreement of the parties to this Settlement Agreement by their attorneys and authorized officials, it is hereby agreed as follows:

DEFINITIONS

1. In this Agreement, the following terms shall have the following meanings:

A. "Additional Sites" means all sites, including, without limitation, all facilities, as that term is defined in CERCLA, other than the Liquidated Sites, Discharged Sites, the Consent Decree Site, and the AWI-Owned Sites. An "Additional Site" shall be construed to include (i) for those sites now or hereafter included on the NPL, all areas of a site as defined by

EPA for purposes of the NPL, including any later expansion of such site as may be determined by EPA, and (ii) for those sites not included on the NPL, all areas affected or potentially affected by the release or threatened release of hazardous substances, as a direct or indirect result of the operations or activities occurring on that site which gave rise to the release or threatened release.

B. "Allowed Unsecured Claim" shall have the meaning set forth in the Plan of Reorganization.

C. "AWI" refers to Armstrong World Industries, Inc., a Pennsylvania Corporation, as debtor and debtor in possession.

D. "AWI-Owned Sites" means any properties or sites owned by AWI at or at any time after the confirmation of the Plan of Reorganization.

E. "Bankruptcy Code" means title 11 of the United States Code.

F. "CERCLA" refers to the Comprehensive Environmental Response Compensation and Liability Act, 42 U.S.C. § 9601 et seq., as now in effect or hereafter amended.

G. "Claim" has the meaning provided in Section 101(5) of the Bankruptcy Code, 11 U.S.C. § 101(5). Where the word "claim" is used without capitalization, it shall refer to a demand for any form of legal relief and is not limited by the definition in Section 101(5) of the Bankruptcy Code.

H. "Consent Decree Site" means the Malvern TCE site in Malvern, Pennsylvania, which is the subject of the Consent Decree in United States et al. v. Chemclene et al., no. 99-CV-3715 (E.D. Pa. Dec. 13, 1999) in which the United States and AWI are both parties.

I. "Debtor" shall mean AWI, as debtor, debtor in possession or as reorganized under a Plan of Reorganization.

J. "Discharged Sites" means the following 18 sites (in alphabetical order):

-
1. Applied Environmental Services (Glenwood Landing, New York);
 2. Aqua-Tech Environmental, Inc. (Groce Labs) (Greer, South Carolina);
 3. Berk's Landfill (Denver, Pennsylvania);
 4. Beulah Landfill (Pensacola, Escambia County, Florida);
 5. Carolina Steel Drum (Rock Hill, York County, South Carolina);
 6. Central Steel Drum (Newark, New Jersey);
 7. Chem Science (Germantown, Wisconsin);
 8. Davis GSR Landfill (Smithfield and Gloucester, Rhode Island);
 9. Dorney Road Landfill a/k/a Oswald (Upper Macungie Township, Pennsylvania);
 10. Frontier Chemical (Niagara Falls, New York);
 11. Gallups Quarry (Plainfield, Connecticut);
 12. Lancaster Battery (Lancaster, Lancaster County, Pennsylvania);
 13. Lorentz Barrel & Drum Co. (San Jose, California);
 14. Miami Munisport Landfill (North Miami, Dade County, Florida);
 15. Modern Sanitation Landfill (Lower Windsor Township, Pennsylvania);
 16. North Penn – Area 6 (Lansdale, Pennsylvania);
 17. Peach Metals Industry (Peach, Georgia); and
 18. Pemaco Maywood (Maywood, California).

A "Discharged Site" delineated above shall be construed to include (i) for those sites now or hereafter included on the NPL, all areas of a site as defined by EPA for purposes of the NPL, including any later expansion of such site as may be determined by EPA, or (ii) for those sites not included on the NPL, all areas affected or potentially affected by the release or

threatened release of hazardous substances, as a direct or indirect result of the operations or activities occurring on or in the vicinity of that site which gave rise to the release or threatened release.

K. "Effective Date" means the date on which this Settlement Agreement is approved by the Bankruptcy Court.

L. "EPA" means the United States Environmental Protection Agency or any legal successor thereto.

M. "EPA Proof of Claim" means Proof of Claim no. 4724 filed in the Chapter 11 Case.

N. "Excess Insurance Proceeds" means, with respect to any Insurance Site, the amount of insurance proceeds recovered by AWI with respect to such Insurance Site in excess of the total of AWI's costs of pursuing such insurance proceeds.

O. "Insurance Sites" means the following six Liquidated Sites: Galaxy/Spectron; Lone Pine Landfill; Maryland Sand, Gravel & Stone; Operating Industries; Peterson/Puritan; and Solvents Recovery Service of New England.

P. "Liquidated Sites" means the following 19 sites:

1. American Chemical Service, Inc. (Griffith, Indiana);
2. Angelillo (Southington, Connecticut);
3. Calumet Container (Hammond, Indiana);
4. Casmalia Disposal (Santa Barbara, California);
5. Elizabethtown Landfill (Elizabethtown, Pennsylvania);
6. Galaxy/Spectron (Elkton, Maryland);
7. Helen Kramer Landfill (Mantua, New Jersey);

-
8. Ottati & Goss/Kingston Steel Drum (Kingston, New Hampshire);
 9. Lone Pine Landfill (Freehold Township, New Jersey);
 10. Lang Property (Pemberton Township, New Jersey);
 11. Maryland Sand, Gravel & Stone (Elkton, Maryland);
 12. Omega Chemical Corporation (Whittier, California);
 13. Operating Industries, Inc. Landfill (Monterey Park, California);
 14. Peterson/Puritan (Lincoln/Cumberland, Rhode Island);
 15. Picillo Farm (Coventry, Rhode Island);
 16. Quanta Resources Superfund Site (Syracuse, New York);
 17. Scientific Chemical Processing Carlstadt (Carlstadt, New Jersey);
 18. Solvents Recovery Service of New England (Southington, Connecticut); and
 19. Volney Municipal Landfill (Town of Volney, New York).

A "Liquidated Site" delineated above shall be construed to include (i) for those sites now or hereafter included on the NPL, all areas of a site as defined by EPA for purposes of the NPL, including any later expansion of such site as may be determined by EPA, or (ii) for those sites not included on the NPL, all areas affected or potentially affected by the release or threatened release of hazardous substances, as a direct or indirect result of the operations or activities occurring on or in the vicinity of that site which gave rise to the release or threatened release.

Q. "Malvern Consent Decree" means the Consent Decree in United States et al. v. Chemclene et al., no. 99-CV-3715 (E.D. Pa. Dec. 13, 1999) with respect to the Malvern TCE Site in Malvern, Pennsylvania in which the United States and AWI are both parties.

R. "NPL" means the National Priorities List, 40 C.F.R. Part 300.

S. "Plan of Reorganization" or "Plan" means any plan of reorganization that is confirmed and becomes effective in the Chapter 11 Case of AWI.

T. "Prepetition" refers to the time period on or prior to December 6, 2000. "Postpetition" refers to the time period from and after December 6, 2000 and prior to the Effective Date.

U. "RCRA" refers to the Resource Conservation and Recovery Act, 42 U.S.C. § 6901 et seq., as now in effect or hereafter amended.

V. "United States" means the United States of America, including EPA, and all of the United States agencies, departments and instrumentalities.

JURISDICTION

2. The Court has jurisdiction over the subject matter hereof pursuant to 28 U.S.C. § 157, 1331, and 1334; and 42 U.S.C. § 9607 and 9613(b).

PARTIES BOUND SUCCESSION AND ASSIGNMENT

3. This Settlement Agreement applies to, is binding upon, and shall inure to the benefit of the United States, AWI and AWI's legal successors and assigns, and any trustee, examiner or receiver for AWI appointed in the Chapter 11 Case.

ALLOWANCE OF CLAIMS

4. In settlement and satisfaction of the United States' CERCLA Claims on behalf of EPA with respect to the Liquidated Sites, AWI consents to the United States having the Allowed Unsecured Claims on behalf of EPA in the amounts set forth below. EPA shall receive no distributions from AWI in the Chapter 11 Case with respect to AWI's liabilities and obligations under CERCLA for the Liquidated Sites other than as set forth in this Settlement Agreement. If

no amount of Allowed Unsecured Claim is listed below for a particular Liquidated Site, then the amount of the Allowed Unsecured Claim for that Liquidated Site is zero:

A. With respect to the American Chemical Service, Inc. site located in Griffith, Indiana: AWI previously paid \$963 toward the response costs, and the United States on behalf of EPA shall have an Allowed Unsecured Claim of \$0.

B. With respect to the Angelillo site located in Southington, Connecticut: the United States on behalf of EPA shall have an Allowed Unsecured Claim of \$1,000.00.

C. With respect to Calumet Container site located in Hammond, Indiana: the United States on behalf of EPA shall have an Allowed Unsecured Claim of \$23,000.00.

D. With respect to the Casmalia Disposal site located in Santa Barbara, California: the United States on behalf of EPA shall have an Allowed Unsecured Claim of \$70,569.00.

E. With respect to the Elizabethtown Landfill site located in Elizabethtown, Pennsylvania: AWI previously paid \$146,000.00 toward response costs, and the United States on behalf of EPA shall have an Allowed Unsecured Claim of \$0.

F. With respect to the Galaxy/Spectron site located in Elkton, Maryland: the United States on behalf of EPA shall have an Allowed Unsecured Claim of \$267,000.00.

G. With respect to the Helen Kramer Landfill site in Mantua, New Jersey: the United States on behalf of EPA shall have an Allowed Unsecured Claim of \$1,000.00.

H. With respect to the Ottati & Goss site in Kingston, New Hampshire: AWI previously entered into a de minimis settlement with the United States on behalf of EPA and received a covenant not to sue; accordingly, the parties agree that EPA shall have an Allowed Unsecured Claim of \$0.

I. With respect to the Lone Pine Landfill site located in Freehold, New Jersey: the United States on behalf of EPA shall have an Allowed Unsecured Claim of \$134,256.00.

J. With respect to the Lang Property site located in Pemberton Township, New Jersey: the United States on behalf of EPA shall have an Allowed Unsecured Claim of \$1,000.00.

K. With respect to the Maryland Sand, Gravel & Stone site located in Elkton, Maryland, the United States on behalf of EPA shall have an Allowed Unsecured Claim of \$185,430.00.

L. With respect to the Omega Chemical Corporation site located in Whittier, California: the United States on behalf of EPA shall have an Allowed Unsecured Claim of \$24,000.00.

M. With respect to the Operating Industries Landfill site located in Monterey Park, California: the United States on behalf of EPA shall have an Allowed Unsecured Claim of \$192,208.80.

N. With respect to the Peterson/Puritan Site in Lincoln/Cumberland, Rhode Island: the United States on behalf of EPA shall have an Allowed Unsecured Claim of \$7,780,000.00.

O. With respect to the Picillo Farm site in Coventry, Rhode Island: the United States on behalf of EPA shall have an Allowed Unsecured Claim of \$1,000.00.

P. With respect to the Quanta Resources Superfund site in Syracuse, New York: the United States on behalf of EPA shall have an Allowed Unsecured Claim of \$1,000.00.

Q. With respect to the Scientific Chemical Processing Carlstadt site located in Carlstadt, New Jersey: the United States on behalf of EPA shall have an Allowed Unsecured Claim of \$1,000.00.

R. With respect to the Solvents Recovery Service of New England site located in Southington, Connecticut: the United States on behalf of EPA shall have an Allowed Unsecured Claim of \$44,275.00.

S. With respect to the Volney Municipal Landfill site located in Town of Volney, New York: the United States on behalf of EPA shall have an Allowed Unsecured Claim of \$1,000.00.

Summary of Total Allowed Unsecured Claims Under Paragraph 4: The United States on behalf of EPA shall have Allowed Unsecured Claims in the total amount of \$8,727,738.80 against AWI. Upon this Settlement Agreement becoming effective, the EPA Proof of Claim shall be deemed amended to assert a Claim in the amount of \$8,727,738.80.

5. With respect to the Liquidated Sites:

A. With respect to the Allowed Unsecured Claims set forth in Paragraph 4 for EPA, only the amount of cash received by EPA (and net cash received by EPA on account of any non-cash distributions) from AWI's estate under the Plan of Reorganization for the Allowed Unsecured Claim for a particular site, and not the total amount of the Allowed Unsecured Claim, shall be credited by EPA to its account for a particular site, which credit shall reduce the liability of non-settling potentially responsible parties for the particular site by the amount of the credit.

B. The Claims and payments set forth in Paragraph 4 will be deemed allocated towards all past, present and future claims for the Liquidated Sites, whether to address matters known or unknown, for which a claim of any kind or nature has been or could be asserted against AWI pursuant to Sections 106 or 107 of CERCLA, 42 U.S.C. §§ 9606 or 9607, or Section 7003 of RCRA, 42 U.S.C. § 6973, by EPA, or the United States on behalf of EPA, or by the potentially responsible parties or potentially responsible party groups which have incurred or may incur such costs.

C. To the extent that the distributions made under the Plan with respect to any of the Insurance Sites do not satisfy the entire amount of the United States' Allowed Unsecured Claim on behalf of EPA with respect to such site, the United States shall retain all rights on behalf of

EPA that it may have to bring a direct action against any of AWI's insurers for the unsatisfied amount of the Allowed Unsecured Claim, except that the United States shall not be entitled to participate on behalf of EPA in any Excess Insurance Proceeds recovered by AWI from an insurer of AWI unless the United States agrees to waive on behalf of EPA all such rights of direct action against such insurer. Such waiver shall only extend to those direct action rights which the United States may have against such insurer in its capacity as an insurer of AWI and would not include any direct action rights which the United States may have on behalf of EPA against them as insurers of any other party, or any claims that the United States may have on behalf of EPA against them because of said insurers' own conduct.

D. To the extent that at any time after the Petition Date, AWI recovers insurance proceeds from an insurer on account of any of the Insurance Sites in excess of AWI's costs of pursuing such insurance proceeds, AWI may retain 52% of such Excess Insurance Proceeds on account of any Insurance Site and AWI shall pay 48% of such Excess Insurance Proceeds on account of each Insurance Site to the United States only upon the United States' execution on behalf of EPA of the waiver provided for in Paragraph 5.C. above for such insurer. AWI agrees to allocate in writing all insurance proceeds on a fair and equitable basis among the various Insurance Sites and other sites, based upon all of the facts and circumstances, including but not limited to any positions and/or defenses to coverage asserted by insurers, and with deference to any allocation by a court or in an approved settlement document. In determining AWI's cost of pursuing insurance proceeds for any Insurance Site, AWI shall use the same percentage allocation of costs as is used in AWI's allocation of recovery of insurance proceeds attributed to that Insurance Site. Notwithstanding anything herein to the contrary, to the extent that insurance proceeds are allocable to sites other than the Insurance Sites or claims unrelated to the Insurance

Sites, no payment shall be made to the United States from those insurance proceeds. The United States reserves the right to petition the Court on behalf of EPA for an adjustment of AWI's allocation based upon all of the facts and circumstances. The payments required to be made under this subparagraph shall be in addition to the payments required to be made under Paragraphs 4 and 5. However, under no circumstances, may the payments required to be made under this subparagraph, when combined with the consideration received for any Insurance Site under Paragraphs 4 and 5, exceed the amount of the Allowed Unsecured Claim for that Insurance Site under Paragraph 4 of this Settlement Agreement. With respect to any payments received by the United States under this subparagraph, EPA shall credit site accounts for particular Insurance Sites only in accordance with AWI's allocation for the particular Insurance Site (unless adjusted by the Court), which credit shall reduce the liability of non-settling potentially responsible parties for the particular site by the amount of the credit.

CONSENT DECREE SITE

6. AWI is a party to the Malvern Consent Decree. Notwithstanding any other provisions of this Settlement Agreement, including, but not limited to Paragraphs 4 and 5 (Liquidated Sites), Paragraphs 8-10 (Additional Sites), and Paragraph 17, AWI shall comply with all of its obligations under the Malvern Consent Decree and AWI's obligations under the Malvern Consent Decree shall not be impaired in any way by the Chapter 11 Case, confirmation of the Plan of Reorganization, or this Settlement Agreement. In addition, AWI has entered into certain agreements with other parties to perform work required under the Malvern Consent Decree and to perform and pay for response actions at the Malvern TCE Site in Malvern, Pennsylvania. To the extent that any of AWI's agreements to comply with such obligations, perform work, and perform or pay for response actions at the Malvern TCE Site may be construed as executory

contracts under Section 365 of the Bankruptcy Code, AWI shall be deemed to have assumed the agreements under Section 365(a) of the Bankruptcy Code.

**NON-DISCHARGEABILITY/DEBTOR-OWNED SITES/
RESERVATION OF RIGHTS**

7. The following Claims of or obligations to the United States shall not be discharged under Section 1141 of the Bankruptcy Code by the confirmation of a Plan of Reorganization nor shall such Claims or obligations be impaired or affected in any way by the Chapter 11 Case or confirmation of a Plan of Reorganization:

A. With respect to any AWI-Owned Sites:

(i) Claims against AWI by the United States under Section 107 of CERCLA, 42 U.S.C. § 9607, for recovery of response costs incurred Postpetition with respect to response action taken by EPA at an AWI-Owned Site, including such response action taken to address hazardous substances that have migrated from an AWI-Owned Site to a proximate location;

(ii) Actions against AWI by the United States under CERCLA or RCRA seeking to compel the performance of a removal action, remedial action, corrective action, closure or any other cleanup action by or on behalf of EPA at an AWI-Owned Site, including actions to address hazardous substances that have migrated to a proximate location from an AWI-Owned Site; or

(iii) Claims against AWI by the United States on behalf of EPA for recovery of civil penalties for violations of law resulting from Postpetition conduct of AWI at AWI-Owned Sites.

B. With respect to any Additional Site, claims against AWI by the United States on behalf of EPA under Sections 106 and 107(a)(1)-(4) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a)(1)-(4), arising as a result of AWI's Postpetition conduct which would give rise to liability under 42 U.S.C. §§ 9606 and 9607(a)(1)-(4).

C. With respect to any Liquidated Site or Discharged Site, the parties reserve all rights and defenses they may have with respect to Postpetition conduct of AWI occurring after the date of lodging of this Settlement Agreement which would give rise to liability under 42 U.S.C. §§ 9606 and 9607(a)(1)-(4). Nothing in this Settlement Agreement shall affect or limit such rights and defenses.

D. EPA, or the United States on behalf of EPA, may pursue enforcement actions or proceedings under applicable law with respect to their claims against AWI and any obligations of AWI to the United States or EPA, under the foregoing subparagraphs A through C in the manner, and by the administrative or judicial tribunals, in which the United States or EPA could have pursued enforcement actions or proceedings if the Chapter 11 Case had never been commenced. AWI reserves the right to assert any and all defenses and counterclaims available to it under applicable law with respect to any such claims and any such obligations of AWI to EPA or the United States under subparagraphs A through C that are asserted by the United States except for any alleged defense of discharge of liabilities provided under the Bankruptcy Code, any Plan of Reorganization or order of confirmation. The United States reserves all of its rights with respect to any defenses or counterclaims asserted by AWI under this subparagraph D.

E. As used in subparagraphs 7B and 7C, "Postpetition conduct" shall not include a failure to satisfy or comply with any Prepetition liability or obligation or with any order issued by EPA Postpetition but concerning acts or omissions occurring Prepetition, or to pay a Claim (including, without limitation, a penalty Claim) except as required by or resulting from the terms of the Plan of Reorganization, Paragraph 6 or any other provision of this Settlement Agreement, or a final order of the Court confirming a Plan of Reorganization.

TREATMENT OF ADDITIONAL SITES

8. With respect to all Additional Sites, all liabilities and obligations of AWI to EPA, or to the United States on behalf of EPA, under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607 and Section 7003 of RCRA, 42 U.S.C. § 6973, arising from Prepetition acts, omissions or conduct of AWI or its predecessors, including without limitation, the Prepetition generation, transportation, disposal or release of hazardous substances, wastes or materials or the Prepetition ownership or operation of hazardous waste facilities, shall be discharged under section 1141 of the Bankruptcy Code by the confirmation of a Plan of Reorganization, and, except as specified in Paragraph 9 below, the United States shall receive no distributions in the Chapter 11 Cases with respect to such liabilities and obligations, but Reorganized AWI may be required to pay the United States or such other party as it may designate, such amounts as are provided for in this Paragraph and Paragraph 9. Such liabilities and obligations shall be treated and liquidated as General Unsecured Claims on the terms specified herein. If and when the United States undertakes enforcement activities on behalf of EPA in the ordinary course with respect to any Additional Site, the United States may seek a determination of the liability, if any, of AWI and may seek to obtain and liquidate a judgment of liability of AWI or enter into a settlement with AWI with regard to any of the Additional Sites in the manner and before the administrative or judicial tribunal in which the United States' claims on behalf of EPA would have been resolved or adjudicated if the Chapter 11 Case had never been commenced. However, EPA shall not issue or cause to be issued any unilateral order or seek any injunction against AWI under Section 106 of CERCLA, 42 U.S.C. § 9606, or Section 7003 of RCRA, 42 U.S.C. § 6973, arising from the Prepetition acts, omissions or conduct of AWI or its predecessors with respect to any Additional Sites. The United States and AWI will attempt to settle each liability

or obligation asserted on behalf of EPA by the United States against AWI relating to an Additional Site on a basis that is fair and equitable under the circumstances, taking into consideration the liability of third parties at such Additional Sites; however, nothing in this sentence shall create an obligation of the United States or AWI that is subject to judicial review. The aforesaid liquidation of liability may occur notwithstanding the terms of the Plan of Reorganization, the order confirming the Plan of Reorganization, or the terms of any order entered to effectuate the discharge received by AWI. In any action or proceeding with respect to an Additional Site, AWI and the United States reserve any and all rights, claims, and defenses they would have been entitled to assert had the claim been liquidated in the ordinary course or during the course of the Chapter 11 Case. Nothing herein shall be construed to limit the Parties' rights to assert any and all rights, claims and defenses they may have in actions or proceedings involving other parties with respect to Additional Sites.

9. In the event any claim is liquidated pursuant to Paragraph 8 by settlement or judgment to a determined amount (the "Determined Amount"), AWI will satisfy such claim within 30 days after the date on which the settlement or judgment is final and effective (the "Settlement/Judgment Date") by providing the holder of the Claim the "Distribution Amount." The Distribution Amount shall be the value of the consideration which would have been distributed under the Plan of Reorganization to the holder of such Claim if the Determined Amount had been an Allowed General Unsecured Claim in such amount under the Plan of Reorganization. Except as provided in Paragraph 10, the Distribution Amount shall be paid in the same form (e.g., cash, notes, etc.) as was distributed under the Plan of Reorganization.

A. If a Determined Amount is liquidated on or before the first anniversary of the Effective Date of the confirmed Plan of Reorganization or the Final Distribution Date (as such

term is defined in the Plan of Reorganization), whichever is earlier, Reorganized AWI may, in its discretion, elect to pay the Distribution Amount to the United States from the Reorganization Consideration (as such term is defined in the Plan of Reorganization) reserved for distribution, but not yet paid, to holders of General Unsecured Claims (the "Creditors' Reserve"); provided, however, that (i) AWI may only elect this option if it determines that, at the time of such payment, sufficient Reorganization Consideration will exist after payment of the Distribution Amount to provide treatment for the Remaining Disputed Unsecured Claims in the Plan of Reorganization as provided for by the Plan of Reorganization, and (ii) to the extent that sufficient Reorganization Consideration in the Creditors Reserve does not exist to pay the entire Distribution Amount, Reorganized AWI shall pay the United States the difference between the Distribution Amount and the amount of Reorganization Consideration paid from the Creditors' Reserve.

B. If a Determined Amount is liquidated after the first anniversary of the Effective Date of the confirmed Plan of Reorganization or the last Distribution Date under that Plan (whichever is earlier), Reorganized AWI shall not pay any portion of the Distribution Amount from the Creditors' Reserve, but shall remain fully obligated to pay the Distribution Amount to the United States.

10. In the event that the Plan of Reorganization provides that Allowed General Unsecured Claims will receive consideration other than cash, AWI may, in its sole discretion, provide the non-cash portion of the Distribution Amount to the United States in cash that has an aggregate value as of the Settlement/Judgment Date that is equivalent to the Distribution Amount. For purposes of determining the value of the consideration paid to the holders of Allowed General Unsecured Claims at the time of distribution(s), notes shall have a value equal

to their face value and equity securities shall have a value equal to the weighted average of the reported regular way sales prices of all transactions for the security on the New York Stock Exchange on the date(s) of distribution (or the first date thereafter on which the security trades), or if the security is not listed or admitted to trade on such exchange, on the principal national securities exchange on which the security is listed or admitted to trading or, if not listed or admitted to trading on any national securities exchange, the weighted average of the reported bid prices for the security on all transactions on the National Association of Securities Dealers Automated Quotations National Market System or, if the security is not listed or admitted to trading on any national securities exchange or quoted on such National Market System, the weighted average of the reported sales prices for such security on all transactions in the over-the-counter market in the United States as furnished by any New York Stock Exchange member firm selected by AWI and the United States for that purpose. For purposes of determining the number of shares of securities that have the value of the Distribution Amount on the Settlement/Judgment Date, the fair market value per share of securities on the Settlement/Judgment Date shall be determined as set forth in the immediately preceding sentence. The terms of Paragraphs 8, 9 and 10 of this Settlement Agreement shall apply to, be binding on, and inure to the benefit of any successor or assign of AWI to the extent that and only to the extent that the alleged liability of the successor or assign for an Additional Site is based solely on its status as and in its capacity of a successor or assign of AWI.

TREATMENT OF DISCHARGED SITES

11. With respect to all Discharged Sites, all liabilities and obligations of AWI to EPA, or to the United States on behalf of EPA under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606, 9607 and Section 7003 of RCRA, 42 U.S.C. § 6973, arising from Prepetition acts,

omissions, or conduct of AWI or its predecessors, including, without limitation, the Prepetition generation, transportation, disposal or release of hazardous substances, wastes or materials or dangerous wastes or the Prepetition ownership or operation of hazardous waste or hazardous substance sites and/or facilities, shall be discharged under Section 1141 of the Bankruptcy Code by the confirmation of a Plan of Reorganization, and the United States shall not have any Allowed Unsecured Claim or receive any distributions in this Chapter 11 Case with respect to such liabilities and obligations.

TREATMENT OF ALLOWED UNSECURED CLAIMS

12. All Allowed Unsecured Claims under or pursuant to the terms of this Settlement Agreement, including without limitation any such Claims as may eventually be allowed pursuant to Paragraphs 8-10 for Additional Sites, regardless of the identity of the holder of such Claims (i) will receive the same treatment under the Plan of Reorganization, without discrimination, as other Allowed Unsecured Claims with all attendant rights provided by the Bankruptcy Code and other applicable law, and (ii) will not be entitled to any priority in distribution (although the provisions of Paragraph 5(D) shall apply in the event of Excess Insurance Proceeds). In no event shall the General Unsecured Claims allowed or to be allowed pursuant to this Settlement Agreement be subordinated to any other Allowed Unsecured Claims pursuant to any provision of the Bankruptcy Code or other applicable law that authorizes or provides for subordination of allowed Claims, including without limitation Sections 105, 510 and 726(a)(4) of the Bankruptcy Code.

13. The Claims allowed in this Settlement Agreement do not constitute, nor shall they be construed as, forfeitures, fines or penalties (or payments in lieu thereof), and nothing herein is intended, or shall be construed, as an admission by AWI of any facts (other than the fact of payments made referred to in Paragraph 4) or any violation of law. Notwithstanding the

foregoing, AWI agrees to comply with all terms of this Settlement Agreement upon the Effective Date.

14. Notwithstanding any other provision of this Settlement Agreement, and except as provided under applicable law, there shall be no restrictions on the ability and right of EPA, or the United States on behalf of EPA, to transfer or sell all or a portion of any securities distributed to them pursuant to the Plan of Reorganization; to sell their right to all or a portion of any distributions under the Plan to one or more third parties; or to transfer or sell to one or more third parties all or a portion of any Allowed General Unsecured Claims pursuant to this Settlement Agreement.

15. With respect to all Liquidated Sites, all liabilities and any obligations of AWI to EPA or, to the United States on behalf of EPA, under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606, 9607 and Section 7003 of RCRA, 42 U.S.C. § 6973, arising from Prepetition acts, omissions, or conduct of AWI or its predecessors, including, without limitation, the Prepetition generation, transportation, disposal or release of hazardous substances, wastes or materials or dangerous wastes or the Prepetition ownership or operation of hazardous waste or hazardous substance sites and/or facilities, shall be discharged under Section 1141 of the Bankruptcy Code by the confirmation of a Plan of Reorganization and shall be treated as provided in Paragraphs 4, 5, and 12 of this Settlement Agreement.

DISTRIBUTION INSTRUCTIONS

16. A. Cash distributions for the Liquidated Sites and, if applicable, any Additional Site, to the United States on behalf of EPA shall be made by FedWire Electronic Funds Transfer ("EFT" or wire transfer) to the U.S. Department of Justice account in accordance with current electronic funds transfer procedures. Payment shall be made in accordance with instructions

provided to AWI by the Financial Litigation Unit of the United States Attorney's Office for the District of Delaware and shall reference Civil Action Number 00-4471 (JKF) and DOJ File Number 90-11-3-07780. AWI shall transmit written confirmation of such payments to the Department of Justice at the address specified in Paragraph 26. In the event that the United States sells or transfers its Claims, AWI will have no obligation to make a payment to a transferee unless AWI has received, prior to the time for making such payment, received written instructions from the United States directing that payments be made to a transferee and instructions as to where such payments should be directed, and, prior to the closing of the Chapter 11 Case, after an evidence of Claim transfer shall have been filed with the Court.

B. Other distributions with respect to the allowed Claims of the United States on behalf of EPA for the Liquidated Sites, and, if applicable, any Additional Site, if such Claim is presented before the Bankruptcy Case is closed, pursuant to this Settlement Agreement shall be made as follows. Non-cash Distributions to the United States on behalf of EPA shall be made to:

U.S. EPA — Superfund
P.O. Box 371003M
Pittsburgh, PA 15251

Copies of all distributions and related correspondence to the United States shall be sent to:

Chief, Environmental Enforcement Section
Environment & Natural Resources Division
U.S. Department of Justice
P.O. Box 7611
Ben Franklin Station
Washington, DC 20044
Ref. DOJ File No. 90-11-3-07780

Helena Healy
Attorney-Advisor
Office of Enforcement and Compliance
Assurance
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., N.W. Mail Code 2272A
Washington, DC 20460

The United States must notify AWI in writing of any modifications to the foregoing addresses. In the event that the United States sells or transfers its Claims, distributions will be made to a transferee only at such time as AWI receives written instructions from the United States directing that payments be made to a transferee and instructions as to where such payments should be made, and, prior to the closing of the Chapter 11 Case, after any evidence of Claim transfer shall have been filed with the Court.

C. Distributions received by EPA will either be deposited in site-specific special accounts within the EPA Hazardous Substance Superfund, to be retained and used to conduct or finance response actions at or in connection with those sites, or be deposited into the EPA Hazardous Substance Superfund.

COVENANT NOT TO SUE AND RESERVATION OF RIGHTS

17. In consideration of all of the foregoing, including, without limitation, the payments and/or distributions that will be made and the Claims allowed pursuant to the terms of this Settlement Agreement, and except as specifically provided in Paragraphs 20 through 22 (below), the United States, on behalf of EPA, covenants not to file a civil action or to take any administrative or other action against AWI pursuant to Section 106 or 107 CERCLA, 42 U.S.C. §§ 9606 or 9607, or Section 7003 of RCRA, 42 U.S.C. § 6973, with respect to each of the Liquidated Sites. The covenant not to sue of this Paragraph 17 shall take effect on the Effective Date.

18. This Settlement Agreement in no way impairs the scope and effect of AWI's discharge under Section 1141 of the Bankruptcy Code as to any third parties or as to any Claims that are not addressed by this Settlement Agreement. Also, this Settlement Agreement in no way impairs or limits any covenant not to sue or release that the United States provided to AWI in

any prior settlement agreement, order or consent decree, including, but not limited to, the Malvern Consent Decree.

19. Without in any way limiting the covenant not to sue (and the reservations thereto) set forth in Paragraph 17 and notwithstanding any other provision of this Settlement Agreement, such covenant not to sue shall also apply to AWI's successors and assigns, officers, directors, employees, and trustees, but only to the extent that the alleged liability of the successor or assign, officer, director, employee, or trustee of AWI is based solely on its status as and in its capacity as a successor or assign, officer, director, employee, or trustee of AWI.

20. The covenants not to sue contained in Paragraphs 17 and 19 of this Settlement Agreement extend only to the persons described in Paragraphs 17 and 19 above and do not extend to any other person. Nothing in this Agreement is intended as a covenant not to sue or a release from liability for any person or entity other than AWI, the United States, and the persons described in Paragraph 19. The United States, on behalf of EPA, and AWI expressly reserve all claims, demands and causes of action either judicial or administrative, past, present or future, in law or equity, which EPA, or the United States on behalf of EPA, or AWI may have against all other persons, firms, corporations, entities, or predecessors of AWI for any matter arising at or relating in any manner to the sites or Claims addressed herein.

21. Notwithstanding the foregoing, the covenants not to sue contained in this Settlement Agreement shall not apply to nor affect any action based on (i) a failure to meet a requirement of this Settlement Agreement; (ii) criminal liability; or (iii) matters reserved in Paragraph 7(A) through (D) above.

22. Nothing in this Settlement Agreement shall be deemed to limit the authority of EPA to take response action under Section 104 of CERCLA, 42 U.S.C. § 9604, or any other

applicable law or regulation, or to alter the applicable legal principles governing judicial review of any action taken by EPA pursuant to that authority. Nothing in this Settlement Agreement shall be deemed to limit the information gathering authority of EPA, or the United States on behalf of EPA under Sections 104 and 122 of CERCLA, 42 U.S.C. §§ 9604 and 9622, or any other applicable federal law or regulation, or to excuse AWI from any disclosure or notification requirements imposed by CERCLA, RCRA, or any other applicable federal or state law or regulation.

23. AWI hereby covenants not to sue and agrees not to assert or pursue any claims or causes of action against the United States with respect to the Liquidated Sites including, but not limited to, any direct or indirect claim for reimbursement from the Hazardous Substances Superfund (established pursuant to the Internal Revenue Code, 26 U.S.C. § 9507) through Sections 106(b)(2), 111, 112, 113 of CERCLA, 42 U.S.C. §§ 9606(b)(2), 9611, 9612, 9613, or any other provision of law; any claim against the United States, including any department, agency or instrumentality of the United States, under Sections 107 or 113 of CERCLA, 42 U.S.C. §§ 9607 or 9613 related to the Liquidated Sites, or any claims arising out of response activities at the Liquidated Sites. Nothing in this Settlement Agreement shall be deemed to constitute preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

CONTRIBUTION PROTECTION

24. With regard to all existing or future third-party claims (including such Claims as may have been filed by third parties in AWI's Chapter 11 Case against AWI, but not including claims by States acting in their regulatory capacities) with respect to the Liquidated Sites and Consent Decree Site, including claims for contribution, the parties hereto agree that AWI is entitled to

such protection from actions or claims as is provided by Section 113(f)(2) of CERCLA, 42 U.S.C. § 9613(f)(2). Matters addressed shall include all matters within the scope of the United States' covenant not to sue in Paragraphs 17 and 19 above.

25. AWI agrees that with respect to any suit for contribution brought against it after the Effective Date for matters related to this Settlement Agreement, it will notify the United States within fifteen business days after service of the complaint. In addition, in connection with such suit, AWI shall notify the United States within fifteen business days after service or receipt of any Motion for Summary Judgment and within fifteen business days after receipt of any order from a court setting a case for trial (provided, however, that the failure to notify the United States pursuant to this Paragraph shall not in any way affect the protections afforded under Paragraphs 16 through 23). This notice shall not be required with respect to third-party Claims previously filed in the Chapter 11 Case.

NOTICES AND SUBMISSIONS

26. Whenever, under the terms of this Settlement Agreement, written notice is required to be given, or a report or other document is required to be sent by one party to another, it shall be directed to the individuals at the addresses specified below via U.S. mail, unless those individuals or their successors give notice of a change of address to the other parties in writing. All notices and submissions shall be considered effective upon receipt, unless otherwise provided. Except as otherwise provided in this Settlement Agreement, written notice as specified herein shall constitute complete satisfaction of any written notice requirement in the Settlement Agreement with respect to the United States and AWI, respectively.

As to the United States:

Chief, Environmental Enforcement Section
Environment & Natural Resources Division
U.S. Department of Justice

P.O. Box 7611
Ben Franklin Station
Washington, DC 20044
Ref. DOJ File No. 90-11-3-07780

Helena Healy
Attorney-Advisor
Office of Enforcement and Compliance
Assurance
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., N.W. - Mail Code 2272A
Washington, DC 20460

As to AWI:

Leonard A. Campanaro
Senior Vice President and Chief Financial Officer
Armstrong World Industries, Inc.
P.O. Box 3001
Lancaster, PA 17604

David B. Hird
Weil, Gotshal & Manges LLP
1501 K Street, N.W.
Washington, D.C. 20005

LODGING AND OPPORTUNITY FOR PUBLIC COMMENT

27. This Settlement Agreement shall be lodged with the Court by the United States for a period of not less than thirty days for public notice and comment. Within 30 days after the conclusion of the public comment period, the United States will notify AWI whether, following its review of the public comments received, the United States continues to consent to this Settlement Agreement and, if the United States so consents, it shall provide to AWI copies of any comments received, as well as the United States' responses to the comments. The United States reserves the right to withdraw or withhold its consent if the comments regarding the Settlement Agreement disclose facts or considerations which indicate that the Settlement Agreement is not in the public interest.

28. Upon receipt of notification from the United States, as specified in Paragraph 27, that, following review of public comments, the United States intends to proceed with this Settlement Agreement, the United States and AWI shall promptly file a joint motion with the Bankruptcy Court seeking its approval of this Settlement Agreement under Bankruptcy Rule 9019.

29. If for any reason (i) the Settlement Agreement is withdrawn by the United States as provided in Paragraph 27 or (ii) the Settlement Agreement is not approved by the Court, or (iii) the Chapter 11 Case is dismissed or converted to a case under Chapter 7 of the Bankruptcy Code before the effective date of a Plan of Reorganization: (a) this Settlement Agreement shall be null and void and the parties shall not be bound hereunder or under any documents executed in connection herewith; (b) the parties shall have no liability to one another arising out of or in connection with this Settlement Agreement or under any documents executed in connection herewith; (c) this Settlement Agreement and any documents prepared in connection herewith shall have no residual or probative effect or value and it shall be as if they had never been executed; and (d) this Settlement Agreement, any statements made in connection with settlement discussions, and any documents prepared in connection herewith may not be used as evidence in any litigation between the parties.

30. AWI shall not propose any Plan of Reorganization or take any other action in the Chapter 11 Case that is inconsistent with the terms and provisions of this Settlement Agreement. The United States, on behalf of EPA, will not oppose any term or provision of a Plan of Reorganization filed by AWI that is addressed by and consistent with this Settlement Agreement. To the extent that there is any inconsistency between the confirmed Plan of Reorganization and this Settlement Agreement, the terms of this Settlement Agreement shall govern as between the

parties. The parties reserve all other rights and defenses they may have with respect to any Plan of Reorganization filed by AWI.

AMENDMENTS/INTEGRATION AND COUNTERPARTS

31. This Settlement Agreement and any other documents to be executed in connection herewith shall constitute the sole and complete agreement of the parties hereto with respect to the matters addressed herein, except that (a) this Settlement Agreement shall not in any way reduce or diminish the effect of any covenant not to sue, release or grant of contribution protection provided to AWI under the terms of any prior consent decree, administrative order on consent or other agreement between the United States and AWI with respect to any of the Liquidated Sites; and (b) this Settlement Agreement shall not in any way alter the rights and obligations of the United States or AWI under the Malvern Consent Decree. This Settlement Agreement may not be amended except by a writing signed by both parties to this Settlement Agreement.

32. This Settlement Agreement may be executed in counterparts each of which shall constitute an original and all of which shall constitute one and the same agreement.

RETENTION OF JURISDICTION

33. Except as provided in Paragraphs 6-10 regarding proceedings in other administrative or judicial tribunals, the Court (or, upon withdrawal of the Court's reference, the U.S. District Court of the District of Delaware) shall retain jurisdiction over the subject matter of this Settlement Agreement and the parties hereto for the duration of the performance of the terms and provisions of this Settlement Agreement for the purpose of enabling any of the parties to apply to the Court at any time for such further order, direction and relief as may be necessary or appropriate for the construction or interpretation of this Settlement Agreement or to effectuate or enforce compliance with its terms.

THE UNDERSIGNED PARTIES ENTER INTO THIS SETTLEMENT AGREEMENT
FOR THE UNITED STATES OF AMERICA:

Date: 1.18.05

By: Tom Sansonetti
Thomas L. Sansonetti
Assistant Attorney General
Environment and Natural Resources Division
U.S. Department of Justice
Washington, D.C. 20530

Date: 1/06/05

By: David E. Street
David Street
Senior Attorney
Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
Washington, D.C. 20530

Date: _____

By: _____
Thomas V. Skinner
Acting Assistant Administrator for
Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

Date: _____

By: _____
Helena Healy
Attorney-Advisor
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

THE UNDERSIGNED PARTIES ENTER INTO THIS SETTLEMENT AGREEMENT
FOR THE UNITED STATES OF AMERICA:

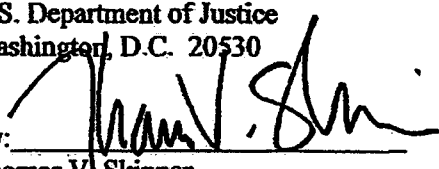
Date: _____

By: _____
Thomas L. Sansonetti
Assistant Attorney General
Environment and Natural Resources Division
U.S. Department of Justice
Washington, D.C. 20530

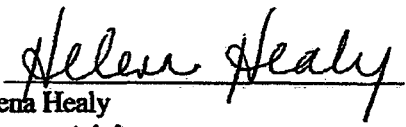
Date: _____

By: _____
David Street
Senior Attorney
Environmental Enforcement Section
Environment and Natural Resources Division
U.S. Department of Justice
Washington, D.C. 20530

Date: 1.25.05

By: 
Thomas V. Skinner
Acting Assistant Administrator for
Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

Date: 1-24-05

By: 
Helena Healy
Attorney-Advisor
Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

THE UNDERSIGNED PARTIES ENTER INTO THIS SETTLEMENT AGREEMENT

FOR ARMSTRONG WORLD INDUSTRIES, INC.

Date: 12-22-04

By: 

Leonard A. Campanaro
Senior Vice President and Chief Financial Officer
Armstrong World Industries, Inc.
P.O. Box 3001
Lancaster, PA 17604

Date: 1-05-05

By: 

David B. Hird
Weil, Gotshal & Manges LLP
1501 K Street, N.W.
Washington, D.C. 20005

Exhibit C

**EPA Superfund
Record of Decision:**

**SCIENTIFIC CHEMICAL PROCESSING
EPA ID: NJD070565403
OU 01
CARLSTADT, NJ
09/14/1990**

1. INSTALLATION OF A SLURRY WALL AROUND THE ENTIRE SITE AND A TEMPORARY INFILTRATION BARRIER OVER THE SITE;
2. INSTALLATION OF A GROUNDWATER COLLECTION SYSTEM AND EXTRACTION OF GROUNDWATER FROM THE FIRST OPERABLE UNIT ZONE WITHIN THE SLURRY WALL TO MAINTAIN THE WATER LEVEL IN THIS ZONE AT THE LOWEST PRACTICABLE LEVEL;
3. TRANSPORTATION OF ALL EXTRACTED GROUNDWATER TO AN APPROPRIATE OFF SITE FACILITY (OR FACILITIES) FOR TREATMENT AND/OR DISPOSAL; AND
4. OPERATION AND MAINTENANCE OF THE COMPONENTS OF THIS INTERIM REMEDY AND ENVIRONMENTAL MONITORING TO ENSURE CONTINUED ACHIEVEMENT OF THE OBJECTIVES OF THE INTERIM REMEDY.

ADDITIONAL DETAILS AND DISCUSSIONS OF THE SELECTED INTERIM REMEDY ARE FOUND IN THE DECISION SUMMARY FOR THIS RECORD OF DECISION.

STATUTORY DETERMINATIONS

SECTION 121(D) (1) OF CERCLA REQUIRES THAT REMEDIAL ACTIONS ATTAIN A DEGREE OF CLEANUP OF HAZARDOUS SUBSTANCES, POLLUTANTS AND CONTAMINANTS RELEASED INTO THE ENVIRONMENT AND OF CONTROL OF FURTHER RELEASES WHICH, AT A MINIMUM, ASSURES PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT. THIS INTERIM ACTION WILL REDUCE THE MIGRATION OF HAZARDOUS SUBSTANCES, POLLUTANTS AND CONTAMINANTS OUT OF THE FIRST OPERABLE UNIT ZONE. THUS, THE THREAT TO HUMAN HEALTH AND THE ENVIRONMENT WHICH IS POSED BY THE CONDITIONS AT THE SITE WILL BE REDUCED MORE QUICKLY BY IMPLEMENTING THIS INTERIM ACTION. THIS INTERIM ACTION WILL NOT, HOWEVER, IN AND OF ITSELF, BE FULLY PROTECTIVE OF HUMAN HEALTH AND THE ENVIRONMENT. IT MUST BE FOLLOWED BY SUBSEQUENT ACTION(S) IN ORDER TO ACHIEVE AN ACCEPTABLE LEVEL OF PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT.

THIS INTERIM ACTION IS COST EFFECTIVE. IT IS A COMPONENT OF A REMEDY FOR THE FIRST OPERABLE UNIT ZONE WHICH WILL, WHEN COMPLETED, MEET APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARS) WHICH RELATE TO THIS SITE. THIS INTERIM ACTION WILL ONLY COMPLY WITH FEDERAL AND STATE REQUIREMENTS THAT ARE DIRECTLY ASSOCIATED WITH THE IMPLEMENTATION OF THIS ACTION. IT IS NOT DESIGNED TO NOR WILL IT ATTAIN CHEMICAL SPECIFIC ARARS FOR HAZARDOUS SUBSTANCES WHICH WILL REMAIN IN THE SOIL AND/OR GROUNDWATER IN OR UNDER THE FIRST OPERABLE UNIT ZONE.

THIS REMEDY UTILIZES PERMANENT SOLUTIONS AND ALTERNATIVE TREATMENT TECHNOLOGIES TO THE MAXIMUM EXTENT PRACTICABLE, GIVEN THE LIMITED SCOPE OF THE ACTION. BECAUSE THE ACTION DOES NOT CONSTITUTE THE FINAL REMEDY FOR THIS FIRST OPERABLE UNIT ZONE, THE STATUTORY PREFERENCE FOR REMEDIES THAT EMPLOY TREATMENT AS A PRINCIPAL ELEMENT TO REDUCE THE TOXICITY, MOBILITY AND VOLUME OF HAZARDOUS SUBSTANCES WILL NOT BE ADDRESSED UNTIL THE FINAL REMEDIAL ACTION IS SELECTED. EPA INTENDS TO SELECT AND REQUIRE THE IMPLEMENTATION OF REMEDIAL ACTIONS WHICH WILL FULLY ADDRESS THE PRINCIPAL THREATS POSED BY THIS SITE AND TO ACHIEVE THE LEVEL OF CLEANUP AT THIS SITE REQUIRED BY CERCLA.

CONSTANTINE SIDAMON-ERISTOFF,
REGIONAL ADMINISTRATOR
US EPA REGION II

DATE: 09/14/90

#SLD

SITE LOCATION AND DESCRIPTION

THE SCIENTIFIC CHEMICAL PROCESSING CARLSTADT SITE (THE SCP SITE OR THE SITE) IS LOCATED AT 216 PATERSON PLANK ROAD, IN THE BOROUGH OF CARLSTADT, BERGEN COUNTY, NEW JERSEY. THE SITE IS BOUNDED BY PATERSON PLANK ROAD ON THE SOUTH; GOTHAM PARKWAY ON THE WEST; PEACH ISLAND CREEK, A TRIBUTARY TO BERRY'S CREEK ON THE NORTH; AND A TRUCKING COMPANY ON THE EAST (SEE FIGURE 1). THE SITE COVERS APPROXIMATELY 5.9 ACRES OF RELATIVELY FLAT, SPARSELY VEGETATED LAND. THE SITE IS FENCED ON THREE SIDES (EAST, WEST, AND SOUTH), WITH A LOCKED MAIN ENTRANCE GATE ON PATERSON PLANK ROAD.

LAND USE IN THE VICINITY OF THE SITE IS CLASSIFIED AS LIGHT INDUSTRIAL. BUSINESSES IN THE IMMEDIATE VICINITY OF THE SITE INCLUDE WAREHOUSES, FREIGHT CARRIERS, LIGHT CHEMICAL, LEATHER GOODS, ELECTRONICS AND OTHER SERVICE SECTOR INDUSTRIES. THE SITE IS LOCATED ACROSS THE STREET FROM THE MEADOWLANDS SPORTS COMPLEX, A LARGE FACILITY FOR PROFESSIONAL SPORTS AND PUBLIC RECREATION EVENTS (SEE FIGURES 1 AND 2).

THE POPULATION OF THE BOROUGH OF CARLSTADT RESIDES MAINLY WITHIN THE RESIDENTIAL AND COMMERCIAL AREAS OF THE BOROUGH (AS SHOWN ON FIGURE 2), HOWEVER, THERE ARE THREE DWELLINGS WHICH EXIST WITHIN APPROXIMATELY ONE MILE OF THE SITE.

LANDS BORDERING PEACH ISLAND CREEK AND BERRY'S CREEK ARE CLASSIFIED AS WATERFRONT RECREATION ZONES. THE SITE IS LOCATED WITHIN THE HACKENSACK MEADOWLANDS DISTRICT, AN EXTENSIVE AREA OF SALT WATER MARSHES DRAINED BY THE HACKENSACK RIVER AND ITS TRIBUTARIES. BERRY'S CREEK, ONE OF THOSE TRIBUTARIES, DRAINS APPROXIMATELY 800 ACRES OF MARSHLAND INCLUDING WALDEN SWAMP AND EIGHT-DAY SWAMP. ALTHOUGH THERE ARE WETLANDS IN THE VICINITY OF THE SITE, THE SITE ITSELF IS CLASSIFIED AS AN UPLAND AREA.

GROUNDWATER IN THE WATER TABLE AQUIFER UNDERLYING THE SITE FLOWS INTO PEACH ISLAND CREEK. WATER IN THIS AQUIFER ALSO FLOWS TOWARDS GOTHAM PARKWAY, PATERSON PLANK ROAD AND THE ADJOINING PROPERTY TO THE EAST. A SIGNIFICANT COMPONENT OF GROUNDWATER FLOW IS ALSO DOWNWARD. ALTHOUGH THE WATER TABLE AND TILL AQUIFERS IN THE IMMEDIATE VICINITY OF THE SITE ARE NOT KNOWN TO BE USED FOR DRINKING WATER, THE BEDROCK AQUIFER WHICH EXTENDS BENEATH THE SITE IS USED FOR POTABLE AS WELL AS INDUSTRIAL PURPOSES.

#SHEA

SITE HISTORY AND ENFORCEMENT ACTIVITIES

THE SITE, WHICH IS OWNED BY INMAR ASSOCIATES, INC., WAS OPERATED DURING THE 1970S BY SCIENTIFIC CHEMICAL PROCESSING, INC., FOR THE HANDLING, TREATMENT AND DISPOSAL OF A WIDE VARIETY OF INDUSTRIAL AND CHEMICAL WASTES. SIMILAR OPERATIONS ALSO OCCURRED ON THE SITE PRIOR TO 1970. IN 1980, OPERATIONS AT THE FACILITY CEASED. IN 1983, THE SITE WAS PLACED ON THE NATIONAL PRIORITIES LIST.

ON OR ABOUT MAY 17, 1985, THE US ENVIRONMENTAL PROTECTION AGENCY (EPA) ISSUED NOTICE LETTERS TO APPROXIMATELY 140 POTENTIALLY RESPONSIBLE PARTIES (PRPS), OFFERING THEM THE OPPORTUNITY TO UNDERTAKE A REMEDIAL INVESTIGATION AND FEASIBILITY STUDY (RI/FS) AT THE SITE. THE PURPOSE OF THE RI/FS WAS TO DETERMINE THE NATURE AND EXTENT OF CONTAMINATION AT THE SCP SITE, AND TO DEVELOP REMEDIAL ALTERNATIVES TO ADDRESS THAT CONTAMINATION. ON SEPTEMBER 30, 1985, EPA ISSUED AN ADMINISTRATIVE ORDER ON CONSENT TO 108 OF THE PRPS WHO AGREED TO CONDUCT THE RI/FS. ON OCTOBER 23, 1985, EPA ISSUED A UNILATERAL ADMINISTRATIVE ORDER TO 31 PRPS WHO FAILED TO SIGN THE CONSENT ORDER, REQUIRING THEM TO COOPERATE WITH THE 108 CONSENTING PARTIES AND PARTICIPATE IN THE RI/FS.

ON OCTOBER 23, 1985, EPA ALSO ISSUED AN ADMINISTRATIVE ORDER TO THE SITE OWNER, INMAR ASSOCIATES, INC., REQUIRING THE COMPANY TO REMOVE AND PROPERLY DISPOSE OF THE CONTENTS OF FIVE TANKS CONTAINING WASTES CONTAMINATED WITH POLYCHLORINATED BIPHENYLS (PCBS) AND NUMEROUS OTHER HAZARDOUS SUBSTANCES. INMAR COMPLETED THE REMOVAL OF FOUR OF THESE TANKS BY THE SUMMER OF 1986. EPA SUBSEQUENTLY SUED INMAR FOR LATE PERFORMANCE OF THE WORK REQUIRED BY THAT ORDER AND RECOVERED MORE THAN \$300,000 IN PENALTIES FOR VIOLATION OF THAT ORDER.

THE PRPS INITIATED THE RI/FS IN APRIL, 1987. THE RESULTS OF THE RI/FS WORK CONDUCTED TO DATE ARE DISCUSSED BELOW.

#HCP

HIGHLIGHTS OF COMMUNITY PARTICIPATION

THE RI/FS REPORT, THE PROPOSED PLAN AND OTHER DOCUMENTS WHICH COMPRISE THE ADMINISTRATIVE RECORD FOR THIS INTERIM REMEDY FOR THE SCP SITE WERE RELEASED TO THE PUBLIC FOR COMMENT ON MAY 19, 1990. THESE DOCUMENTS WERE MADE AVAILABLE TO THE PUBLIC AT THE EPA DOCKET ROOM IN REGION II AND AT THE WILLIAM E. DERMODY FREE PUBLIC LIBRARY IN CARLSTADT, NEW JERSEY. ON MAY 19, 1990, EPA ALSO PUBLISHED A NOTICE IN THE "BERGEN RECORD" WHICH CONTAINED INFORMATION RELEVANT TO THE PUBLIC COMMENT PERIOD FOR THE SITE, INCLUDING THE DURATION OF THE PUBLIC COMMENT PERIOD, THE DATE OF THE PUBLIC MEETING AND AVAILABILITY OF THE ADMINISTRATIVE RECORD. THE PUBLIC COMMENT PERIOD BEGAN ON MAY 19, 1990 AND ENDED ON JUNE 18, 1990. IN ADDITION, A PUBLIC MEETING WAS HELD ON JUNE 5, 1990, AT WHICH REPRESENTATIVES FROM EPA AND THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION (NJDEP) ANSWERED QUESTIONS REGARDING THE SITE AND THE INTERIM ACTIONS UNDER CONSIDERATION. RESPONSES TO THE SIGNIFICANT COMMENTS RECEIVED DURING THE PUBLIC COMMENT PERIOD ARE INCLUDED IN THE RESPONSIVENESS SUMMARY, WHICH IS PART OF THIS RECORD OF DECISION (ROD).

#SRRA

SCOPE AND ROLE OF THIS RESPONSE ACTION WITHIN OVERALL SITE STRATEGY

THE SCP SITE IS EXTREMELY COMPLEX, BECAUSE OF THE WIDE VARIETY OF CONTAMINANTS PRESENT, THE HIGH CONCENTRATIONS OF CONTAMINANTS DETECTED, AND THE MANY POTENTIAL MIGRATION ROUTES FOR THESE CONTAMINANTS. CONSEQUENTLY, EPA HAS DIVIDED THE RESPONSE ACTIONS FOR THE SITE INTO SEVERAL OPERABLE UNITS (OUS). THE OUS FOR THE SITE ARE DEFINED AS FOLLOWS:

OU 1: THIS OU WILL ADDRESS REMEDIATION OF CONDITIONS IN THE FOU ZONE AT THE SITE, INCLUDING REMEDIATION OF CONTAMINATED SOILS AND GROUNDWATER ABOVE THE CLAY LAYER; AND,

OU 2: THIS OU WILL ADDRESS REMEDIATION OF CONDITIONS OUTSIDE THE FOU ZONE, INCLUDING REMEDIATION OF THE CONTAMINATION IN THE TILL AND BEDROCK AQUIFERS AND PEACH ISLAND CREEK.

SOME OF THE PRPS CONDUCTED STUDIES TO EVALUATE POTENTIAL REMEDIAL ALTERNATIVES FOR SOILS AND GROUNDWATER IN THE FIRST OPERABLE UNIT (FOU) ZONE. IN ADDITION TO THE NO ACTION ALTERNATIVE, VARIOUS TECHNOLOGIES FOR TREATING THE MOST HEAVILY CONTAMINATED ZONE WERE EVALUATED, INCLUDING SOLIDIFICATION OF THE SOILS/SLUDGES, CHEMICAL EXTRACTION OF CONTAMINANTS FROM THE SOILS/SLUDGES, AND INCINERATION OF THE SOILS/SLUDGES IN THE FOU ZONE. TREATABILITY STUDIES WERE ALSO PERFORMED IN ORDER TO TEST THE EFFECTIVENESS OF SEVERAL TREATMENT METHODS FOR REMEDIATING CONTAMINATED SOILS, SLUDGES AND GROUNDWATER. SPECIFIC STUDIES CONDUCTED INCLUDED INCINERATION, CONTAMINANT EXTRACTION, AND SOLIDIFICATION/STABILIZATION OF THE SITE SOILS AND SLUDGES, AS WELL AS PEROXIDATION, CARBON ADSORPTION, STEAM STRIPPING AND CRITICAL FLUID EXTRACTION OF THE SHALLOW GROUNDWATER.

THE RESULTS OF THESE STUDIES INDICATED THAT, ALTHOUGH THERE ARE SEVERAL TREATMENT METHODS WHICH MAY BE VIABLE FOR REMEDIATING SOILS AND SLUDGES IN THE FOU ZONE, THERE ARE UNCERTAINTIES REGARDING THE RELATIVE EFFECTIVENESS OF VARIOUS TREATMENT TECHNOLOGIES. CONSEQUENTLY, IT IS DESIRABLE TO FURTHER ASSESS TREATMENT ALTERNATIVES PRIOR TO THE SELECTION OF A PERMANENT REMEDY FOR THE FOU ZONE WHICH WILL BE PROTECTIVE OF HUMAN HEALTH AND THE ENVIRONMENT.

THE FS DEMONSTRATED THAT, IN ORDER TO TREAT THE HEAVILY CONTAMINATED SATURATED SOIL, IT WOULD BE NECESSARY TO FIRST REMOVE THE SHALLOW GROUNDWATER FROM THIS ZONE (I.E., DEWATER THIS ZONE). CONSEQUENTLY, EACH OF THE ALTERNATIVES EVALUATED IN THE FS (WITH THE EXCEPTION OF THE NO ACTION ALTERNATIVE) INCLUDES IMPLEMENTATION OF A "DEWATERING" SYSTEM. THIS SYSTEM CONSISTS OF:

1. INSTALLATION OF AN UNDERGROUND SLURRY WALL AROUND THE SITE PERIMETER, DOWN TO THE CLAY LAYER;
2. EXTRACTION OF GROUNDWATER FROM WITHIN THE BOUNDARY OF THIS WALL; AND,
3. SUBSEQUENT TREATMENT AND DISPOSAL OF THE GROUNDWATER. DEWATERING THE FOU ZONE WILL FACILITATE IMPLEMENTING A FINAL REMEDY FOR THE SOILS AND SLUDGES LOCATED WITHIN THIS ZONE.

ALTHOUGH FURTHER WORK IS PLANNED TO EVALUATE TREATMENT TECHNOLOGIES FOR THE SOILS AND SLUDGES, THERE IS

ENOUGH INFORMATION CURRENTLY AVAILABLE FOR EPA TO SELECT AN INTERIM ACTION TO TEMPORARILY REDUCE MIGRATION OF CONTAMINANTS OUT OF THE FOU ZONE UNTIL FURTHER STUDIES OF THE SITE ARE COMPLETED AND A FINAL REMEDY FOR THE FOU ZONE IS SELECTED.

SINCE THE DEWATERING SYSTEM IS A COMMON COMPONENT OF ALL ALTERNATIVES EVALUATED TO DATE (WITH THE EXCEPTION OF THE NO ACTION ALTERNATIVE), IT WILL BE CONSISTENT WITH ANY POTENTIAL FUTURE REMEDY WHICH EPA WILL SELECT FOR THE SITE. THIS DEWATERING SYSTEM WILL ALSO BE PART OF A FUTURE PERMANENT REMEDY WHICH WILL PROTECT HUMAN HEALTH AND THE ENVIRONMENT. ALTHOUGH THIS ALTERNATIVE IS NOT FULLY PROTECTIVE IN AND OF ITSELF, IT IS EXPECTED TO BE EFFECTIVE IN TEMPORARILY REDUCING FURTHER MIGRATION OF CONTAMINANTS FROM THE SHALLOW ZONE UNTIL A PERMANENT REMEDY CAN BE IMPLEMENTED.

#SSC

SUMMARY OF SITE CHARACTERIZATION

SITE GEOLOGY

THE RESULTS OF THE RI INDICATE THAT THE SITE STRATIGRAPHY CONSISTS OF THE FOLLOWING UNITS, IN DESCENDING ORDER WITH DEPTH: EARTHEN FILL MATERIAL (AVERAGE THICKNESS OF APPROXIMATELY 8.4 FEET ACROSS THE SITE); PEAT (THICKNESS RANGING FROM 0 TO APPROXIMATELY 1.8 FEET ACROSS THE SITE); GRAY SILT (AVERAGE THICKNESS OF APPROXIMATELY 2 FEET ACROSS THE SITE); VARVED CLAY (THICKNESS RANGING FROM 0 TO 18 FEET ACROSS THE SITE); RED CLAY (THICKNESS RANGING FROM 0 TO 8 FEET ACROSS THE SITE); TILL (CONSISTING OF SAND, CLAY AND GRAVEL, AVERAGE THICKNESS OF APPROXIMATELY 20 FEET ACROSS THE SITE); AND BEDROCK (SEE FIGURE 3).

THE SITE IS UNDERLAIN BY THREE HYDROLOGIC UNITS WHICH ARE DESCRIBED AS THE "SHALLOW AQUIFER", THE "TILL AQUIFER" AND THE "BEDROCK AQUIFER" IN DESCENDING ORDER WITH DEPTH. THE WATER TABLE IS FOUND IN THE SHALLOW AQUIFER AT A DEPTH OF APPROXIMATELY TWO FEET BELOW THE LAND SURFACE. THE TILL AQUIFER CONSISTS OF THE WATER-BEARING UNIT BETWEEN THE CLAY AND THE BEDROCK. THE BEDROCK AQUIFER IS THE MOST PROLIFIC OF THE THREE AQUIFERS AND IS USED REGIONALLY FOR POTABLE AND INDUSTRIAL PURPOSES. RESULTS OF HYDROGEOLOGIC TESTS CONDUCTED DURING THE RI INDICATE THAT THE THREE AQUIFERS ARE HYDRAULICALLY CONNECTED. CHEMICAL ANALYSES OF GROUNDWATER FROM THE THREE AQUIFERS PROVIDES FURTHER SUPPORT TO THIS FINDING. SPECIFICALLY, CHEMICAL DATA DEMONSTRATES THAT CONTAMINANTS FROM THE SHALLOW AQUIFER HAVE MIGRATED ACROSS THE CLAY-SILT LAYER INTO THE TILL AND BEDROCK AQUIFERS.

SOIL CONTAMINATION

SOIL SAMPLES WERE COLLECTED AND ANALYZED FOR PRIORITY POLLUTANTS AND CERTAIN ADDITIONAL PARAMETERS FROM SEVENTEEN LOCATIONS AT THE SITE (SEE FIGURE 5). SAMPLES WERE COLLECTED AT DEPTH, AT THE FOLLOWING INTERVALS: 0-2 FEET, 5-6 FEET, AND AT THE TOP OF THE CLAY-SILT LAYER. TABLES 1, 2, AND 3 SUMMARIZE THE NUMBER OF OCCURRENCES AND MAXIMUM CONCENTRATIONS OF CHEMICALS DETECTED IN SOILS AT EACH OF THE THREE SAMPLING DEPTHS. THE RESULTS INDICATE THAT A WIDE VARIETY OF CONTAMINANTS, INCLUDING VOLATILE ORGANIC COMPOUNDS (VOCs), ACID EXTRACTABLE COMPOUNDS, BASE/NEUTRAL COMPOUNDS, PCBS, METALS, PETROLEUM HYDROCARBONS AND PESTICIDES WERE DETECTED AT HIGH LEVELS AT ALL DEPTHS SAMPLED.

IN ADDITION, SOIL SAMPLES WERE COLLECTED FROM THREE LOCATIONS WITHIN THE CLAY LAYER. TABLE 4 SUMMARIZES THE NUMBER OF OCCURRENCES AND MAXIMUM CONCENTRATIONS OF HAZARDOUS SUBSTANCES DETECTED IN THE CLAY-SILT LAYER. THE RESULTS DEMONSTRATE THAT MANY OF THE CHEMICALS DETECTED IN THE OVERLYING SOILS AND FILL MATERIAL HAVE MIGRATED DOWN INTO THE CLAY-SILT LAYER. FOR EXAMPLE, THE LEVELS OF VOCs DETECTED IN THESE THREE DEEP BORINGS ARE INDICATED ON FIGURE 6. AS EVIDENCED BY THE ANALYTICAL RESULTS, VOCs HAVE MIGRATED DOWN INTO AND THROUGH THE CLAY-SILT LAYER. THIS LAYER IS NOT PREVENTING DOWNWARD MIGRATION OF HAZARDOUS SUBSTANCES FROM THE FOU ZONE INTO THE TILL AQUIFER.

PROVIDED BELOW ARE THE AVERAGE CONCENTRATION FOR THE VARIOUS CLASSES OF CONTAMINANT COMPOUNDS DETECTED AT THE FOUR DEPTHS SAMPLED.

AVERAGE CONCENTRATION IN PARTS PER MILLION

	0-2 FEET()	5-6 FEET()	TOP OF THE CLAY	WITHIN THE CLAY
COMPOUND CLASS:				
VOLATILE ORGANIC	1,068.0	2,069.0	153.0	361.0
BASE/NEUTRAL	147.0	343.0	20.0	0.5
ACID EXTRACTABLE	12.0	169.0	9.2	0.3
PCBS	1,048.0	62.0	1.8	0.2
CYANIDES	4.7	8.5	3.5	
PHENOLICS	50.0	66.0	6.6	1.5
PETROLEUM				
HYDROCARBONS	13,167.0	8,507.0	1,164.0	82.5

- (1) UNSATURATED ZONE.
(2) SATURATED ZONE.

AVERAGE CONCENTRATION IN PARTS PER MILLION

	0-2 FEET	5-6 FEET	TOP OF THE CLAY	WITHIN THE CLAY
COMPOUND CLASS				
SELECTED METALS(3):				
CHROMIUM	171	92	22	28
COPPER	8,788	1,425	786	30
LEAD	667	735	111	12
ZINC	623	564	2,865	73

(3) THIS IS A LIMITED LIST OF METALS WHICH WERE DETECTED AT THE SITE. AS DEMONSTRATED BY THE ABOVE DATA, ALTHOUGH THE HIGHEST LEVELS OF CONTAMINANTS ARE FOUND IN THE SOILS ABOVE THE CLAY LAYER, CONTAMINANTS HAVE MIGRATED FROM THE UNSATURATED, SURFICIAL SOILS INTO THE SATURATED SOILS AND DOWN INTO THE CLAY LAYER.

TANK SLUDGE

FOUR TANKS CONTAINING PCB CONTAMINATED SLUDGE WERE REMOVED AND DISPOSED OF AS PART OF THE REMOVAL ACTIONS CONDUCTED BY THE SITE OWNER DURING 1986. A FIFTH TANK CONTAINING EXTREMELY HIGH LEVELS OF PCBS, METALS AND OTHER CONTAMINANTS WAS NOT REMOVED BECAUSE DISPOSAL FACILITIES CAPABLE OF ACCEPTING SUCH WASTES WERE UNAVAILABLE. TABLE 5 SHOWS THE RESULTS OF THE ANALYSES CONDUCTED ON THE MATERIAL IN THE REMAINING TANK. THE TANK HAS BEEN PLACED IN A ROLL-OFF CONTAINER AND SECURED WITH A TARPAULIN. BECAUSE THE CONSTITUENTS OF THE TANK SLUDGE ARE SIMILAR TO THOSE FOUND IN THE SITE SOILS, THE ULTIMATE DISPOSAL AND/OR TREATMENT METHOD FOR THE SLUDGE WILL BE CONSIDERED WITH THOSE METHODS EVALUATED FOR THE SOILS.

GROUNDWATER CONTAMINATION

AS STATED PREVIOUSLY, THREE AQUIFERS HAVE BEEN IDENTIFIED AT THE SITE: THE WATER TABLE, THE TILL AQUIFER, AND THE BEDROCK AQUIFER. DURING THE RI, TEN GROUNDWATER MONITORING WELLS WERE INSTALLED: SEVEN IN THE WATER TABLE AQUIFER, AND THREE IN THE TILL AQUIFER (SEE FIGURE 5). SAMPLING RESULTS FROM THESE WELLS DEMONSTRATED SEVERE CONTAMINATION OF THE SHALLOW AQUIFER AND MIGRATION OF HAZARDOUS SUBSTANCES DOWN INTO THE TILL AQUIFER. AN ADDITIONAL WELL WAS INSTALLED IN THE BEDROCK AQUIFER TO DETERMINE IF IT HAD BEEN IMPACTED BY HAZARDOUS SUBSTANCES IN THE WATER TABLE AND TILL AQUIFERS ABOVE IT. DATA FROM THIS MONITORING WELL REVEALED THAT MANY OF THE SAME HAZARDOUS SUBSTANCES WHICH WERE PRESENT IN THE FOU ZONE AND THE TILL AQUIFER WERE PRESENT IN THE BEDROCK AQUIFER. THE ANALYTICAL RESULTS FROM THE GROUNDWATER SAMPLING EFFORTS CONDUCTED DURING THE RI ARE DISCUSSED BELOW.

THE WATER TABLE AQUIFER IS CONTAMINATED WITH A VARIETY OF HAZARDOUS SUBSTANCES. TABLE 6 PROVIDES A SUMMARY

OF THE NUMBER OF OCCURRENCES AND MAXIMUM CONCENTRATIONS OF CHEMICALS DETECTED. CONTAMINANTS DETECTED INCLUDED VOLATILE ORGANIC COMPOUNDS, SEMI-VOLATILE ORGANIC COMPOUNDS, PESTICIDES, PCBS, AND METALS. MANY OF THE HAZARDOUS SUBSTANCES FOUND IN THE WATER TABLE AQUIFER ARE IDENTICAL TO THOSE DETECTED IN SOILS IN THE FOU ZONE. FOR EXAMPLE, BENZENE, CHLOROFORM, 1,2-DICHLOROETHANE, TOLUENE, TRICHLOROETHYLENE, PCB AROCLOR 1242, VINYL CHLORIDE, ARSENIC AND COPPER WERE DETECTED IN BOTH THE FOU ZONE SOILS AND THE WATER TABLE AQUIFER.

GROUNDWATER IN THE WATER TABLE AQUIFER UNDERLYING THE SITE FLOWS INTO PEACH ISLAND CREEK. WATER IN THIS AQUIFER ALSO FLOWS TOWARDS GOTHAM PARKWAY, PATERSON PLANK ROAD AND THE ADJOINING PROPERTY TO THE EAST. A SIGNIFICANT COMPONENT OF GROUNDWATER FLOW IS ALSO DOWNWARD INTO THE UNDERLYING TILL AQUIFER.

GROUNDWATER QUALITY DATA COLLECTED FROM THE TILL AQUIFER DEMONSTRATE THAT HAZARDOUS SUBSTANCES HAVE MIGRATED FROM THE SOILS IN THE FOU ZONE AND FROM THE WATER TABLE AQUIFER DOWN THROUGH THE CLAY LAYER INTO THE TILL AQUIFER. TABLE 7 PROVIDES A SUMMARY OF THE NUMBER OF OCCURRENCES AND MAXIMUM CONCENTRATIONS OF CHEMICALS DETECTED IN THE TILL AQUIFER. CONTAMINANTS DETECTED INCLUDE VOLATILE ORGANIC, SEMI-VOLATILE ORGANIC, PESTICIDES, PCBS, AND METALS. MANY OF THE HAZARDOUS SUBSTANCES FOUND IN THE TILL AQUIFER ARE SIMILAR IN TYPE AND/OR IDENTICAL TO THOSE DETECTED IN SOILS IN THE FOU ZONE AND IN THE WATER TABLE AQUIFER. FOR EXAMPLE, CHLOROFORM, 1,2-DICHLOROETHANE, TOLUENE, TRICHLOROETHYLENE, VINYL CHLORIDE, AND COPPER WERE ALL DETECTED IN THE SOILS IN THE FOU ZONE, THE WATER TABLE AQUIFER AND THE TILL AQUIFER.

THE BEDROCK AQUIFER IS HYDRAULICALLY CONNECTED TO THE TILL AQUIFER. PUMP TESTS CONDUCTED DURING THE RI/FS DEMONSTRATED THIS CONNECTION. GROUNDWATER QUALITY DATA ALSO DEMONSTRATE THAT HAZARDOUS SUBSTANCES HAVE MIGRATED FROM THE TILL AQUIFER INTO THE BEDROCK AQUIFER. FOR EXAMPLE, CHLOROFORM, 1,2-DICHLOROETHANE, VINYL CHLORIDE AND COPPER WERE ALL DETECTED IN BOTH THE TILL AQUIFER AND BEDROCK AQUIFER.

THE GROUNDWATER QUALITY DATA COLLECTED IN ALL THREE AQUIFERS ALSO REVEALS THAT, ALTHOUGH THE HIGHEST LEVELS OF HAZARDOUS SUBSTANCES AND POLLUTANTS AND CONTAMINANTS ARE FOUND IN THE SOILS IN THE FOU ZONE AND IN THE WATER TABLE AQUIFER, SOME OF THESE CONTAMINANTS, PARTICULARLY VOCs, HAVE MIGRATED FROM THIS AQUIFER INTO THE TILL AND BEDROCK AQUIFERS.

SURFACE WATER AND SEDIMENT CONTAMINATION

PEACH ISLAND CREEK, A TRIBUTARY OF BERRY'S CREEK, FLOWS ADJACENT TO THE SITE. THE RI INCLUDED LIMITED SAMPLING AND ANALYSES OF SURFACE WATER AND SEDIMENT FROM PEACH ISLAND CREEK.

WATER QUALITY AND SEDIMENT SAMPLES WERE COLLECTED AT FOUR SAMPLING STATIONS ALONG PEACH ISLAND CREEK. THE LOCATIONS ARE DEPICTED ON FIGURE 7 AND INCLUDE THE FOLLOWING: THE CONFLUENCE OF PEACH ISLAND CREEK AND BERRY'S CREEK (APPROXIMATELY ONE-HALF MILE DOWNSTREAM FROM THE SITE); 100 FEET DOWNSTREAM OF THE SITE; ADJACENT TO THE CENTER LINE OF THE SITE; AND 100 FEET UPSTREAM OF THE SITE. ONE SURFACE WATER SAMPLE AND TWO SEDIMENT SAMPLES (FROM 0 TO 6 INCHES AND FROM 12 TO 18 INCHES BELOW THE SURFACE OF THE STREAM BED) WERE COLLECTED AT EACH LOCATION. STUDIES PERFORMED IN CONJUNCTION WITH THE RI INDICATED THAT THE WATER TABLE AQUIFER AT THE SITE FLOWS INTO PEACH ISLAND CREEK. AS DISCUSSED ABOVE, THIS AQUIFER IS GROSSLY CONTAMINATED BY NUMEROUS HAZARDOUS SUBSTANCES AND POLLUTANTS AND CONTAMINANTS.

THE RI RESULTS INDICATE THAT THE SURFACE WATER AND SEDIMENT IN PEACH ISLAND CREEK ARE ALSO CONTAMINATED WITH HAZARDOUS SUBSTANCES. TABLE 8 PROVIDES A SUMMARY OF THE NUMBER OF OCCURRENCES AND MAXIMUM CONCENTRATIONS OF CHEMICALS DETECTED IN THE CREEK. TABLES 9 AND 10 PROVIDE THE NUMBER OF OCCURRENCES AND MAXIMUM CONCENTRATIONS OF CHEMICALS DETECTED IN THE SEDIMENT SAMPLES TAKEN FROM THE CREEK.

MANY OF THE HAZARDOUS SUBSTANCES FOUND IN THE SURFACE WATER AND SEDIMENT IN PEACH ISLAND CREEK ARE IDENTICAL TO THOSE DETECTED IN SOILS AND GROUNDWATER AT THE SITE. FOR EXAMPLE, 1,1,1-TRICHLOROETHANE, CHLOROFORM, MERCURY, ARSENIC, DIELDRIN AND PCB AROCLORS (1242, 1254, 1260, AND 1248) WERE ALL DETECTED IN SOILS AND GROUNDWATER AT THE SITE AND IN THE SURFACE WATER AND SEDIMENT OF PEACH ISLAND CREEK.

THE RI INDICATED THAT HAZARDOUS SUBSTANCES HAVE BEEN RELEASED ONTO THE SOILS AND INTO THE GROUNDWATER AT THE SITE. FURTHERMORE, SUCH HAZARDOUS SUBSTANCES HAVE MIGRATED AND CONTINUE TO MIGRATE FROM THE SOILS AND WATER TABLE AQUIFER IN THE FOU ZONE INTO UNDERLYING GROUNDWATER AQUIFERS AND INTO PEACH ISLAND CREEK, A TIDAL WATERWAY ADJOINING THE SITE. THE PRESENCE OF THE MANY HAZARDOUS SUBSTANCES, POLLUTANTS AND CONTAMINANTS IN

THE SOIL AND IN THE WATER TABLE AQUIFER IN THE FOU ZONE AT THE SITE, PARTICULARLY WITHOUT THE PRESENCE OF ANY CONTROL OR CONTAINMENT FACILITIES, POSE A THREAT OF CONTINUED RELEASE AND FUTURE RELEASES OF SUCH SUBSTANCES INTO THE ENVIRONMENT IN THE FUTURE.

IN SUMMARY, THE RI RESULTS INDICATE THE FOLLOWING:

- * ON-SITE SOILS, BOTH AT THE SURFACE AND DOWN TO A DEPTH OF AT LEAST 10-12 FEET, ARE HEAVILY CONTAMINATED WITH HAZARDOUS SUBSTANCES, INCLUDING VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS, PESTICIDES, PCBS, AND INORGANIC COMPOUNDS;
- * THE SHALLOW GROUNDWATER AT THE SITE IS HEAVILY CONTAMINATED WITH HAZARDOUS SUBSTANCES, INCLUDING VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS, PESTICIDES AND INORGANIC COMPOUNDS;
- * HAZARDOUS SUBSTANCES HAVE MIGRATED FROM THE FOU ZONE DOWN INTO AND THROUGH THE CLAY LAYER (WHICH LIES BETWEEN THE WATER TABLE AQUIFER AND DEEPER AQUIFERS) INTO THE TILL AND BEDROCK AQUIFERS AT THE SITE;
- * GROUNDWATER IN THE TILL AND BEDROCK AQUIFERS AT THE SITE IS CONTAMINATED WITH A NUMBER OF HAZARDOUS SUBSTANCES AND POLLUTANTS AND CONTAMINANTS, INCLUDING SOME VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS;
- * HAZARDOUS SUBSTANCES SIMILAR IN TYPE AND/OR IDENTICAL TO THOSE FOUND IN THE SOILS IN THE FOU ZONE HAVE BEEN FOUND IN THE WATER TABLE, TILL AND BEDROCK AQUIFERS; AND
- * SURFACE WATER AND SEDIMENT IN PEACH ISLAND CREEK, WHICH FLOWS ADJACENT TO THE SITE, ARE CONTAMINATED WITH HAZARDOUS SUBSTANCES SIMILAR IN TYPE AND/OR IDENTICAL TO THOSE WHICH WERE FOUND IN THE SOILS AND GROUNDWATER AT THE SITE.

THE RI DID NOT FULLY DEFINE THE EXTENT OF CONTAMINATION IN OFF-SITE AREAS, THE BEDROCK AQUIFER AND IN SURFACE WATER BODIES. SUCH CHARACTERIZATION WILL BE THE SUBJECT OF FURTHER INVESTIGATION DURING AND/OR AFTER THE IMPLEMENTATION OF THIS INTERIM REMEDY.

#SSR

SUMMARY OF SITE RISKS

A BASELINE RISK ASSESSMENT WAS CONDUCTED BY EPA THROUGH ITS CONTRACTOR DURING THE RI/FS TO EVALUATE THE HEALTH AND ENVIRONMENTAL RISKS POSED BY CONTAMINATION AT THE SCP SITE. THE DATA COLLECTED DURING THE RI REVEALED THAT AT LEAST 87 CHEMICALS EXIST IN THE SOIL AND SHALLOW GROUNDWATER AT THE SITE. THE HIGHEST CONCENTRATIONS OF HAZARDOUS SUBSTANCES FOUND ON SITE ARE FOUND IN THE SOIL AND/OR GROUNDWATER ABOVE THE CLAY LAYER. MANY OF THE CHEMICALS DETECTED IN THE SOILS AND GROUNDWATER AT THE SITE ARE KNOWN HUMAN CARCINOGENS (E.G. VINYL CHLORIDE, ARSENIC, AND BENZENE). MANY OTHERS ARE KNOWN CARCINOGENS IN ANIMALS AND ARE SUSPECTED HUMAN CARCINOGENS (E.G. PCBS, CHLOROFORM, 1,2-DICHLOROETHANE, METHYLENE CHLORIDE.) MANY OF THE HAZARDOUS SUBSTANCES DETECTED IN GROUNDWATER AT THE SITE WERE PRESENT AT LEVELS WHICH FAR EXCEED FEDERAL AND STATE STANDARDS AND GUIDELINES FOR GROUNDWATER QUALITY. IN PARTICULAR, THE LEVELS OF NUMEROUS VOCs, PCBS, AND SEVERAL INORGANIC COMPOUNDS EXCEED THE FEDERAL MAXIMUM CONTAMINANT LEVELS (MCLs) ESTABLISHED FOR THESE CHEMICALS UNDER THE SAFE DRINKING WATER ACT AND THE NEW JERSEY MCLs, SOMETIMES BY SEVERAL ORDERS OF MAGNITUDE. IN ADDITION, CONTAMINANT LEVELS IN SOILS IN THE FOU ZONE EXCEED THE NEW JERSEY SOIL ACTION LEVELS FOR VOCs, PCBS, BASE-NEUTRAL COMPOUNDS, METALS, AND PETROLEUM HYDROCARBONS.

THE DATA COLLECTED TO DATE DEMONSTRATE THE FOLLOWING: (1) THERE HAS BEEN MIGRATION OF HAZARDOUS SUBSTANCES

FROM THE SOILS IN THE FOU ZONE INTO THE WATER TABLE, AND FROM THE FOU ZONE DOWN INTO THE TILL AND THE BEDROCK AQUIFERS (THE BEDROCK AQUIFER IS PRESENTLY USED REGIONALLY FOR POTABLE AND INDUSTRIAL PURPOSES); (2) SURFACE WATER RUNOFF AND/OR DIRECT GROUNDWATER DISCHARGE FROM THE SITE HAS RESULTED IN CONTAMINATION OF SEDIMENTS AND SURFACE WATER IN PEACH ISLAND CREEK; (3) THE POTENTIAL FOR FURTHER LATERAL MIGRATION OF HAZARDOUS SUBSTANCES OUT OF THE FOU ZONE IN GROUNDWATER TO OFF-SITE AREAS AND INTO THE TILL AND BEDROCK AQUIFERS BENEATH THE SITE EXISTS; AND (4) THE POTENTIAL ALSO EXISTS FOR CONTAMINANT MIGRATION FROM THE SITE INTO THE ATMOSPHERE BY VOLATILIZATION AND/OR PARTICULATE SUSPENSION ALSO EXISTS.

THE BASELINE RISK ASSESSMENT IDENTIFIED PATHWAYS THROUGH WHICH HUMANS MAY BE EXPOSED TO SITE CONTAMINANTS. THE POTENTIAL HUMAN EXPOSURE PATHWAYS INCLUDE DIRECT CONTACT WITH SURFACE SOIL, INHALATION OF VOLATILE ORGANICS, INHALATION OF SUSPENDED SOLIDS AND INGESTION OF GROUNDWATER AND SURFACE WATER.

THE BASELINE RISK ASSESSMENT AND THE RI RESULTS INDICATE THAT THE CONDITIONS AT THE SCP SITE POSE AN UNACCEPTABLE RISK TO PUBLIC HEALTH, WELFARE AND THE ENVIRONMENT. IN ADDITION, THERE WILL BE A CONTINUED THREAT OF MIGRATION OF HAZARDOUS SUBSTANCES FROM THE SITE ABSENT THE IMPLEMENTATION OF REMEDIAL ACTIONS. THE INTERIM REMEDIAL ACTION SELECTED IN THIS ROD WILL MITIGATE, FOR THE SHORT TERM, THE UNACCEPTABLE RISK POSED BY THE CONDITIONS AT THE SITE AND FUTURE MIGRATION OF HAZARDOUS SUBSTANCES FROM THE SITE.

THE INTERIM REMEDY IDENTIFIED IN THIS ROD WILL NOT ACHIEVE THE LEVEL OF PROTECTION FOR THE PUBLIC HEALTH WELFARE AND THE ENVIRONMENT REQUIRED BY CERCLA FOR A FINAL REMEDIAL ACTION. IT WILL ALSO NOT ACHIEVE THE REQUISITE REDUCTION IN MOBILITY, TOXICITY AND VOLUME OF HAZARDOUS SUBSTANCES AT THE SITE REQUIRED BY THAT STATUTE. THE INTERIM REMEDY, HOWEVER, WILL BE A COMPONENT OF A FINAL REMEDY FOR THE FOU ZONE THAT WILL ULTIMATELY BE PROTECTIVE OF PUBLIC HEALTH AND THE ENVIRONMENT.

IN SUMMARY, ACTUAL OR THREATENED RELEASES OF HAZARDOUS SUBSTANCES FROM THIS SITE, IF NOT ADDRESSED BY IMPLEMENTING THE INTERIM REMEDY SELECTED IN THIS ROD, MAY PRESENT AN IMMINENT AND SUBSTANTIAL ENDANGERMENT TO PUBLIC HEALTH, WELFARE, OR THE ENVIRONMENT.

#DA

DESCRIPTION OF ALTERNATIVES

ALTERNATIVES ANALYZED FOR THE INTERIM ACTION ARE PRESENTED BELOW.

ALTERNATIVE 1: NO ACTION

CAPITAL COST:	\$ 0
ANNUAL OPERATION AND	
MAINTENANCE (O&M) COSTS():	\$ 42,000
PRESENT WORTH:	\$ 120,000 (EST.)

MONTHS TO DESIGN AND CONSTRUCT: 0

THE NCP REQUIRES THAT THE NO ACTION ALTERNATIVE BE EVALUATED AT EVERY SITE TO ESTABLISH A BASELINE FOR COMPARISON OF OTHER ALTERNATIVES. UNDER THE NO ACTION ALTERNATIVE, EPA WOULD NOT TAKE AN INTERIM ACTION AT THE SITE TO CONTROL MIGRATION OF CONTAMINANTS TO GROUNDWATER AND PEACH ISLAND CREEK. THE FENCE AROUND THE SITE PROPERTY WOULD CONTINUE TO BE MAINTAINED TO RESTRICT ACCESS TO THE SITE, HOWEVER. THE NO ACTION ALTERNATIVE ALSO INCLUDES PERIODIC MONITORING OF GROUNDWATER.

(4) O&M COSTS ARE BASED ON THE THREE YEAR EXPECTED DURATION OF THE INTERIM REMEDY.

ALTERNATIVE 2: SITE DEWATERING THROUGH INSTALLATION OF A SLURRY WALL AND A GROUNDWATER COLLECTION AND TREATMENT SYSTEM

CAPITAL COST:	\$ 4,586,000
ANNUAL O & M COST(4):	\$ 109,000 (FOR 3 YEARS)
PRESENT WORTH:	\$ 5,164,000

Exhibit D

**EPA Superfund
Record of Decision:**

**SCIENTIFIC CHEMICAL PROCESSING
EPA ID: NJD070565403
OU 02
CARLSTADT, NJ
08/12/2002**

DECLARATION STATEMENT

SITE NAME AND LOCATION

Scientific Chemical Processing (EPA ID#-NJ070565403) Carlstadt Township, Bergen County, New Jersey, Operable Unit 2

STATEMENT OF BASIS AND PURPOSE

This decision document presents the Selected Remedy for the contaminated soil on the Scientific Chemical Processing Site located in Carlstadt Township, Bergen County, New Jersey. The Selected Remedy was chosen in accordance with the Comprehensive Environmental Response, Compensation and Liability Act, as amended, and to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan. This decision is based on the Administrative Record file for the site.

The State of New Jersey concurs with the Selected Remedy.

ASSESSMENT OF THE SITE

The response action selected in this Record of Decision is necessary to protect public health or welfare or the environment from actual or threatened release of hazardous substances from the site into the environment.

DESCRIPTION OF THE SELECTED REMEDY

The Selected Remedy described in this document involves the remediation of an area of highly-contaminated sludge on the site ("Hot Spot" Area) and improvements to the existing interim remedy for the remainder of the Fill Area. The Fill Area includes all soils, sludges and groundwater above the shallow clay layer and inside the existing containment slurry wall. Construction of the interim remedy was completed in 1992 pursuant to a 1990 Record of Decision. Additional remedial actions are planned to address contaminated groundwater outside the Fill Area and sediments within Peach Island Creek.

The major components of the Selected Remedy follow:

- Air stripping of the Hot Spot area until levels of Volatile Organic Compounds are reduced to whichever is more stringent: the average VOC levels in Fill Area outside the Hot Spot, or to a level where interference with stabilization will not occur. VOCs released during treatment will be collected and treated on site, or adsorbed to assure no negative impacts to the surrounding community.
- Soil stabilization of the Hot Spot using cement and lime, so that the Hot Spot is solidified to performance standards to be developed during the design phase of the remedy. The solidification and stabilization will effect containment of polychlorinated biphenols (PCBs) and other non-volatile or semi-volatile contaminants
- Installation of a landfill cap over the entire Fill Area. The cap will consist of a 2-foot thick "double containment" cover system, which will be constructed over the entire area currently circumscribed by the existing slurry wall.
- Improvement of the existing, interim groundwater recovery system, which consists of above-ground piping, and recovery wells screened, in the Fill Area. The improvements will include the installation of new extraction wells along the perimeter of the site, construction of underground clean utility corridors for the wells, and piping and electrical system to allow more flexibility for future uses of the site. The extracted groundwater will either be collected in the existing above-ground tank for disposal, or pumped, via sewer connection, to the Bergen County Publicly Owned

Treatment Works (POTW) for treatment.

- The existing sheet pile wall along Peach Island Creek, which protects the slurry wall along the riparian side of the Fill Area, will be improved and upgraded.

While EPA believes the Hot Spot treatment portion of the Selected Remedy will be effective, if appropriate performance standards for treatment, solidification and containment are not met, then removal of the Hot Spot, as described in the Record of Decision's Alternative SC-3, will be performed.

DECLARATION OF STATUTORY DETERMINATIONS

Part 1: Statutory Requirements

The Selected Remedy is protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate to the remedial action, is cost-effective, and utilizes permanent solutions and alternative treatment or resource recovery technologies to the maximum extent practicable.

Part 2: Statutory Preference for Treatment

The Selected Remedy satisfies the statutory preference for treatment as a principal element of the remedy.

Part 3: Five-Year Review Requirements

The Selected Remedy allows hazardous substances, pollutants or contaminants to remain at this site above levels which would allow for unlimited use and unrestricted exposure. Pursuant to CERCLA Section 121 (c), EPA is required to conduct five-year reviews of the remedies selected at this site. The first five-year review was completed on September 30, 1998. This decision document reviewed the remedy selected in the 1990 Record of Decision, designated the first operable unit (OU1), and subsumes and replaces it with a final on-site remedy, designated OU2. This Record of Decision constitutes the second five-year review of the site. As indicated elsewhere, this remedy is expected to be protective of human health and the environment when it is fully implemented. The next five-year review will be conducted within five years of the date of this Record of Decision.

Since the remedy selected in this decision document has not been implemented and the remedy for groundwater and off-site contamination (designated OU3) has not been selected, the exposure pathways that could result in unacceptable risks are being controlled by measures which limit current property and groundwater uses.

ROD DATA CERTIFICATION CHECKLIST

The following information is included in the Decision Summary section of this Record of Decision. Additional information can be found in the Administrative Record file for site.

- Chemicals of concern and their respective concentrations may be found in the "Summary of Site Characteristics" section.
- Baseline risk represented by the chemicals of concern may be found in the "Summary of Site Risks" section.
- A discussion of source materials constituting principal threats may be found in the "Principal Threat Waste" section.
- Current and reasonably anticipated future land use assumptions are discussed in the "Current and Potential Future Site and Resource Uses" section.

- Estimated capital, annual operation and maintenance, and total present worth costs are discussed in the "Description of Remedial Alternatives" section.
- Key factors that led to selecting the remedy (i.e., how the Selected Remedy provides the best balance of tradeoffs with respect to the balancing and modifying criteria, emphasizing criteria key to the decision) may be found in the "Comparative Analysis of Alternatives" and "Statutory Determinations" sections.

Jane M. Kenny
Regional Administrator
Region II

Date

DECISION SUMMARY
Operable Unit Two
Scientific Chemical Processing Site
Carlstadt, Bergen County, New Jersey

United States Environmental Protection Agency
Region II
July 2002

TABLE OF CONTENTS

PAGE

SITE NAME, LOCATION AND DESCRIPTION	1
SITE HISTORY AND ENFORCEMENT ACTIVITIES	1
HIGHLIGHTS OF COMMUNITY PARTICIPATION	5
SCOPE AND ROLE OF RESPONSE ACTION	5
SUMMARY OF SITE CHARACTERISTICS	6
CURRENT AND POTENTIAL FUTURE SITE AND RESOURCE USES	8
SUMMARY OF SITE RISKS	8
REMEDIAL ACTION OBJECTIVES	17
DESCRIPTION OF REMEDIAL ALTERNATIVES	17
COMPARATIVE ANALYSIS OF ALTERNATIVES	21
PRINCIPAL THREAT WASTE	29
SELECTED REMEDY	30
STATUTORY DETERMINATIONS	31
DOCUMENTATION OF SIGNIFICANT CHANGES	34

APPENDICES

APPENDIX I	FIGURES
APPENDIX II	TABLES
APPENDIX III	ADMINISTRATIVE RECORD INDEX
APPENDIX IV	STATE CONCURRENCE LETTER
APPENDIX V	RESPONSIVENESS SUMMARY
APPENDIX VI	TRANSPORTATION AND COST DETAILS

SITE NAME LOCATION AND DESCRIPTION

The six-acre Scientific Chemical Processing (SCP) Site is located at 216 Paterson Plank Road in Carlstadt, New Jersey. The Site is a corner property, bounded by Paterson Plank Road on the south, Gotham Parkway on the west, Peach Island Creek on the north and an industrial facility on the east (Figure 1). The land use in the vicinity of the Site is classified as light industrial by the Borough of Carlstadt. The establishments in the immediate vicinity of the Site include a bank, stables, warehouses, freight carriers, and service sector industries. There is a residential area located approximately 6,000 feet northwest of the Site.

SITE HISTORY AND ENFORCEMENT ACTIVITIES

Early Operations

The land on which the SCP Site is located was purchased in 1941 by Patrick Marrone who used the land for solvent refining and solvent recovery. Mr. Marrone eventually sold the land to a predecessor of Inmar Associates, Inc. Aerial photographs from the 1950s, 1960s and 1970s indicate that drummed materials were stored on the Site. On October 31, 1970, SCP Inc. leased the Site from Inmar Associates. SCP used the Site for processing industrial wastes from 1971 until the company was shut down by court order in 1980.

While in operation, SCP received liquid byproduct streams from chemical and industrial manufacturing firms, then processed the materials to reclaim marketable products, which were sold to the originating companies. In addition, liquid hydrocarbons were processed to some extent, then blended with fuel oil. The mixtures were typically sold back to the originating companies, or to cement and aggregate kilns as fuel. SCP also received other wastes, including paint sludges, acids and other unknown chemical wastes.

Site Discovery, State and Federal Response Actions

In 1983, the Site was placed on the National Priorities List (NPL). Between 1983 and 1985, the New Jersey Department of Environmental Protection (NJDEP) required the site owner to remove approximately 250,000 gallons of wastes stored in tanks, which had been abandoned at the Site.

In May 1985, EPA assumed the lead role in the response actions, and issued notice letters to over 140 Potentially Responsible Parties (PRPs). EPA offered the PRPs an opportunity to perform a Remedial Investigation and Feasibility Study (RI/FS) for the Site. The purpose of an RI/FS is to determine the nature and extent of a site's contamination, and then to develop remedial alternatives which address that contamination. In September 1985, EPA issued Administrative Orders on Consent to the 108 PRPs who had agreed to conduct the RI/FS. Subsequently, in October 1985, EPA issued a Unilateral Order to 31 PRPs who failed to sign the Consent Order. The Unilateral Order required the 31 PRPs to cooperate with the 108 consenting PRPs on the RI/FS. In the fall of 1985, EPA also issued an Administrative Order to Inmar Associates, requiring the company to remove and properly dispose of the contents of five tanks containing wastes contaminated with polychlorinated biphenyls (PCBs) and numerous other hazardous substances.

Inmar removed four of the five tanks in 1986. The fifth tank was not removed at the time due to the high levels of PCBs and other contaminants found in that specific tank, and the unavailability of disposal facilities capable of handling those wastes. The fifth tank and its contents were subsequently removed and disposed of by the PRPs in February 1998.

The PRPs initiated the RI/FS in April 1987. In March 1990, a final RI was completed. The RI focused on the most heavily contaminated zone at the Site which included the contaminated soils, sludges and shallow groundwater down to the clay layer (hereinafter, this zone will be referred to as the "Fill Area"). The RI also collected data from the deeper groundwater areas. The deeper areas consist of the till aquifer, which lies just

under the Fill Area's clay layer, and the bedrock aquifer which underlies the till aquifer. Groundwater within both the till aquifer and bedrock aquifer was found to be contaminated with site-related compounds. The RI also found that the adjacent Peach Island Creek's surface water and sediments were impacted by contaminants similar to those found in the Fill Area.

Prior to issuing a final RI, an FS was completed in 1989. Based on data from the draft RI, the FS analyzed alternatives for the Fill Area groundwater and sludge/soils. The alternatives analyzed included the combined use of a slurry wall, dewatering, caps, vacuum extraction and in-situ stabilization technologies. The results of the FS indicated that, although there seemed to be several potential methods or combinations of methods to remedy the Fill Area soil and sludges, there were uncertainties regarding the relative effectiveness of the various technologies. Consequently, EPA made a decision that treatment alternatives needed further assessment. In the meantime, interim measures were necessary to contain and prevent exposure to the Fill Area contaminants. Therefore, based on the findings of the RI and FS, a Record of Decision (ROD) for an interim remedy for the Fill Area was issued by EPA in September 1990.

Operable Unit 1 Remedy

EPA typically addresses sites, particularly the more complex ones, in separate phases and/or operable units. In developing an overall strategy for the SCP Site, EPA has identified the interim Fill Area remedy as Operable Unit 1 (OU1), the final Fill Area remedy as OU2, and the groundwater/Peach Island Creek remedy as OU3.

As stated previously, EPA issued a ROD on September 14, 1990 describing the selection of an interim remedial action for the Fill Area to prevent exposure to site soils and prevent the contaminated groundwater within the Fill Area from migrating off the property. The interim remedy was constructed from August 1991 through June 1992 by the PRPs for the Site pursuant to a Unilateral Administrative Order, dated September 28, 1990, and consists of the following:

1. A lateral containment wall comprised of a soil-bentonite slurry with an integral high density polyethylene (HDPE) vertical membrane which is keyed into the clay layer and circumscribes the property;
2. A sheet pile retaining wall along Peach Island Creek. The retaining wall was installed to facilitate construction of the slurry wall. Regular monitoring has shown that the retaining wall has remained stable since completion of the slurry wall installation;
3. A horizontal infiltration barrier consisting of high density polyethylene covering the property;
4. An extraction system for shallow groundwater consisting of seven (since reduced to five) wells screened in the Fill Area, which discharge to an above-ground 10,000 gallon tank via above-grade pipes. The water from the tank is disposed of off-site;
5. A chain link fence which circumscribes the property; and
6. Quarterly (since made annual) groundwater monitoring for metals and organics. Operation and Monitoring reports on the current conditions at the Site are submitted to EPA on a monthly basis.

The interim remedy has effectively mitigated the risks from direct contact with Fill Area contamination and the spread of Fill Area contamination since its implementation in 1992.

Operable Unit 2 and Operable Unit 3 Remedy

While implementing the interim remedy (i.e., OU1), EPA continued to oversee additional

RI/FS work which would provide information to prepare Records of Decision for OU2 and OU3. In March 1994, the PRPs presented to EPA nine remedial technologies which the PRPs considered potentially applicable to the Site. In December of that year, EPA requested that the PRPs further review and reduce the list of potential technologies. In 1995, the PRPs submitted a Focused Feasibility Study Workplan (FFS) to evaluate both the groundwater contamination (to be addressed in OU3) and the following reduced list of remedial technologies for the Fill Area; 1) containment; 2) "Hot Spot" removal; 3) stabilization; 4) bioremediation; and 5) thermal desorption.

The FFS identified a number of severe limitations and complex issues associated with the site-wide ex-situ remedial options, including difficulties associated with the large amount of massive construction and demolition debris contained within the Fill Area. These findings are presented in detail in the 1997 Focused Feasibility Investigation Workplan (FFSI). The FFSI established the following working definition for the "Hot Spot" area:

- An area where, if chemical constituents were removed and/or treated, the site-wide risk would be reduced by over an order of magnitude; and
- An area small enough to be considered separately from remediation of the entire Fill Area.

Based on previous findings, it was determined that sludge in one portion of the Fill Area fit the definition of "Hot Spot" (see Figure 2). The FFSI also determined that treatability studies were necessary to determine the best in-situ methods to address this Fill Area sludge (i.e., the Hot Spot area). In 1998, the PRPs submitted a Treatability Testing Workplan to test these technologies. The results of the testing were submitted to EPA in the July 2000 Treatability Study Final Report.

Additional groundwater and surface water sampling will continue to be conducted in preparation for the development of remedial alternatives for groundwater contamination and Peach Island Creek. Based on the existing information relating to the Fill Area, EPA has elected to move forward with the permanent remedy for OU2 independent of the OU3 remedy, which will be the subject of a future ROD. Thus, the following summary focuses on the OU2 efforts.

HIGHLIGHTS OF COMMUNITY PARTICIPATION

The Proposed Plan and the supporting documentation for OU2 were released to the public for comment on August 15, 2001. These documents were made available to the public at the EPA Administrative Record File Room, 290 Broadway, 18th Floor, New York, NY; and at the William E. Demody Free Public Library, 420 Hackensack St, Carlstadt, NJ.

On August 15, 2001, EPA issued a notice in the Bergen County Record, which contained a summary of EPA's Proposed Remedy for OU2 and information relevant to the public comment period for this site, including the duration of the comment period, the date of the public meeting and the availability of the administrative record. The public comment period began on August 15, 2001 and initially ended on September 15, 2001, but was extended through a public notice in the Bergen County Record through October 25, 2001. The extension was given to allow mail which may have been lost or delayed due to events on September 11, 2001 to be resubmitted. A public meeting was held on August 23, 2001, at the Carlstadt Borough Hall located at 500 Madison St., Carlstadt, NJ. The purpose of the meeting was to inform local officials and interested citizens about the Superfund process, to discuss the Proposed Plan, to receive comments on the Proposed Plan, and to respond to questions from area residents and other interested parties. In general, the public supported the Agency's proposed remedy, Alternative SC-5; Air Stripping, Capping, Solidification/Stabilization and Shallow Groundwater Collection. Responses to comments received at the public meeting and in writing during the public comment period are included in the Responsiveness Summary (Appendix V).

SCOPE AND ROLE OF RESPONSE ACTION

As with many Superfund sites, the problems at the SCP Site are complex. As a result, EPA has organized the work into three distinct phases or operable units. The name of each operable unit and the portions of the Site that each operable unit includes are listed below:

- Operable Unit 1: Fill Area, interim remedy.
- Operable Unit 2: Fill Area, permanent remedy.
- Operable Unit 3: Groundwater contamination outside the defined Fill Area and the Peach Island Creek.

OU2, the subject of this ROD, addresses the Fill Area contaminants. As indicated in the 1990 OU1 ROD, the interim remedy will be a key component of the OU2 final Fill Area remedy.

SUMMARY OF SITE CHARACTERISTICS

The results of the RI indicate that the Site stratigraphy consists of the following units, in descending order with depth: earthen fill material (average thickness of approximately 8.4 feet across the Site); peat (thickness ranging from 0 to approximately 1.8 feet across the Site); gray silt (average thickness ranging from 0 to 19 feet across the Site); till (consisting of sand, clay and gravel, average thickness of approximately 20 feet across the Site); and bedrock.

The Site is underlain by three groundwater units which are described as the "shallow aquifer," the "till aquifer" and the "bedrock aquifer" in descending order with depth. The natural water table is found in the shallow aquifer at a depth of approximately two feet below the land surface. The till aquifer consists of the water-bearing unit between the clay and the bedrock. The bedrock aquifer is the most prolific of the three aquifers and is used regionally for potable and industrial purposes. Results of hydrogeologic tests conducted during the RI indicate that the three aquifers are hydraulically connected. Chemical analyses of groundwater from the three aquifers provide further support to this finding. Specifically, chemical data collected during the RI demonstrated that contaminants, including chloroform, 1,2-dichloroethane, and vinyl chloride from the shallow aquifer have migrated across the clay-silt layer into the till and bedrock aquifers.

Physical Characteristics

Test pit and boring investigations conducted during the RI defined the Fill Area. Twenty-three test pits were dug and thirty-one soil borings were taken. In addition, eighteen soil borings were collected around the perimeter of the Site as part of the OU1 slurry wall design investigation. Based on these data, the following conclusions can be drawn:

- 1) The Fill Area material consists of a variety of construction and demolition (C&D) debris including large blocks of reinforced concrete and rock, steel beams, timber, stumps, scrap metal, fencing, piping, cable, brick, ceramic, concrete masonry block, rock/concrete rubble, etc. Finer-grained materials such as sands, gravels, silts, clays, and sludge-like material were identified mixed within the C&D debris.
- 2) Based on a review of the Test Pit Study Report and photographs of subsurface material, an estimated 60% of the material is C&D debris and the remaining material consists of finer-grained particles mixed with the C&D debris.

Chemical Characteristics

During the RI, numerous chemical constituents were detected in the Fill Area material, including volatile organic compounds (VOCs) such as benzene, tetrachloroethylene and